Draft Headford Local Area Plan 2015-2021 Screening for Appropriate Assessment (AA)



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1.1 Introduction

This is the Appropriate Assessment Screening Report of the Draft Headford Local Area Plan (LAP) 2015-2021. This report is being carried out in line with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild fauna and Flora; the Planning and Development Act 2010; and the European Communities (Birds and Natural Habitats) Regulations 2011(S.I. No. 477/2011). The purpose of this report is to assess the likely effects of the LAP, separately, together or in combination with other projects or plans, on any Natura 2000 site and to consider whether these impacts are likely to be significant and thus require an Appropriate Assessment.

1.2 Headford Local Area Plan

The Draft Headford Local Area Plan 2015-2021 has been prepared in accordance with the requirements and provisions of the Planning and Development Act 2000 as amended. It sets out an overall strategy for the proper planning and sustainable development of Headford in the context of the Galway County Development Plan including its Core Strategy/Settlement Strategy. It is also informed by Ministerial Guidelines published pursuant to Section 28 of the Planning and Development Act 2000 (as amended) together with EU requirements regarding Strategic Environmental Assessment and Appropriate Assessment.

The current Galway County Development Plan (CDP) sets out the overall strategy for the proper planning and sustainable development of the county over a six year period. The plan has a critical role to play in ensuring that the needs of future population growth are planned for. The CDP Core Strategy/Settlement Strategy has been informed by the Regional Planning Guidelines (RPGs) and the environmental sensitivities of the county. It is based on building strong urban centres while protecting the rural hinterlands. A key component of the Headford Local Area Plan 2015-2021 is to ensure that it aligns with the County Core Strategy/Settlement Strategy as set out in the current Galway County Development Plan. The Core Strategy indicates that Headford has been assigned a population growth target of 251 persons by 2021 with a housing land requirement of 10.61ha (which includes the permitted 50% over provision) in order to accommodate residential development over the plan period. Under the previous Headford Local Area Plan 2005-2011, there was approximately 78.55ha of undeveloped zoned residential land within the plan boundary. This plan must therefore consider the most appropriate residential development options such as phasing, rezoning or de-zoning in order not to exceed the maximum requirements of the 10.61ha from the Core Strategy and to ensure that suitable lands are brought forward for development during the plan period.

1.3 Legislative Background

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC).

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment (AA):

> *Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In light of the*

conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(4) states:

If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

1.4 Stages of Appropriate Assessment

This Appropriate Assessment has been prepared in accordance with the European Commission Environment DG Document *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, Referred to as the "EC Article 6 Guidance Document (EC2000)*. The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC, referred to the "EC Article 6 Guidance Document (EC2000)" and is viewed as an interpretation of the EU Commissions document "Managing Natura 2000 sites (2002)". This Assessment has also taken into consideration the Department of the Environment, Heritage and Local Government publication *Appropriate Assessment of Plans and Projects in Ireland-Guidance for Planning Authorities* (December 2009). This guidance is not a legal interpretation, but represents the current situation and understanding, and is regarded as a work in progress.

Stage one of the Methodological Guidance is the screening process, which examines the likely effects of a project, either alone or in combination with other projects or plans upon a Natura 2000 site and considers whether it can be objectively concluded that these effects will not be significant . This stage of the screening process involves four steps, which fall under the following headings:

1. Management of the site - Involves determining whether or not the project or plan is directly connected with or necessary to the management of the site.
2. Description of the project or plan - Describing the project or plan and the description and characterization of other projects or plans that in combination have the potential for having significant effects on the Natura 2000 site
3. Characteristics of the site - Identifying the potential effects on the Natura 2000 site(s)
4. Assessment of Significance - Assessing the significance of any effects on the Natura 2000 site(s).

Stage 2 of the process "Appropriate Assessment" follows Stage 1 where following an evaluation of the plan it has been established the plan is likely to have a significant effect on any Natura 2000 site. This stage involves the following:

- A description of the Natura 2000 sites that will be considered further in the Appropriate Assessment process;
- A description of significant impacts on the conservation feature of these sites likely to occur from the proposed development;
- Recommendations;

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any negative impacts on European sites by identifying possible impacts early in the plan-making process, and writing the plan in order to avoid such impact. Second, mitigation measures should be applied, if necessary during the Appropriate Assessment process to the point where no adverse impacts on the site(s) remain. If the plan is still likely to result in adverse effects, and no

further practicable mitigation is possible, then it is rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

2.0 Screening Methodology

2.1 Introduction

The Local Area Plan for Headford contains numerous policies and objectives that would contribute to the conservation of Natura 2000 sites and the qualifying interests of these sites in accordance with the requirements of the Habitats Directive. The LAP is consistent with the Core Strategy of the current Galway County Development Plan and is consistent with the policies and objectives of the CDP. The draft LAP includes a written statement and maps indicating various objectives. All of the draft plan policies and objectives were reviewed as part of the Appropriate Assessment Screening process. Consideration was given to direct and indirect impacts which may arise from development which could be encouraged by objectives contained in the draft plan. This could include new residential, commercial, infrastructural, recreational or other development which may give rise to direct impacts on habitats or species (loss of habitat, disturbance to species); as well as activities which could have indirect impacts (e.g. activities which could affect water quality or hydrology which could in turn affect the status/health of populations of water dependant habitats or species). Proposals which could give rise to impacts which were considered include:

- Policies promoting development in areas with inadequate provision for water and waste water Infrastructure;
- Policies promoting development in areas which could give rise to pressure on water quality during the construction and operational phase, in particular proposals for development within flood zones with water dependant habitats and species;
- Policies promoting development which could give rise to disturbance to protected species, in particular proposals for paths and walkways within or adjacent to sensitive bird/bat feeding and roosting sites.

These proposals are considered on their own as well as in relation to potential cumulative impacts when considered with other plans and projects. There are many reasons why a particular aspect of a plan – such as a policy or proposal – would not be likely to have a significant effect on a European site. These include, but may not be limited to, aspects of the plan:

a) **Intended to protect the natural environment,** including biodiversity, or to conserve or enhance the natural, built or historic environment, where enhancement measures will not likely have any negative effect on a European site;
b) **Which will not themselves lead to development or other change**, e.g. because they relate to design or other qualitative criteria for development or other kinds of change;
c) **Which make provision for change but which could have no conceivable effect** on a European site, because there is no link or pathway between them and the qualifying interests, or any effect would be a positive effect, or would not otherwise undermine the conservation objectives for the site;
d) **Which make provision for change but which could have no significant effect** on a European site, because any potential effects would be trivial, or 'de minimis' or so restricted or remote from the site that they would not undermine the conservation objectives for the site;
e) **For which effects on any particular European site cannot be identified, because the proposal** is too general, for example, it is not known where, when or how the proposal may be implemented, or where effects may occur, or which sites, if any, may be affected.

3.0 Headford Local Area Plan and Natura 2000 Baseline

3.1 Summary Description of Headford Local Area Plan

The overarching policies and objectives of the Galway County Development Plan will apply to development within the LAP boundary, including the development management standards set out in the CDP. The LAP identifies specific policies and objectives applicable to Headford in order to facilitate land use in a manner that will promote proper planning and sustainable development. Key issues comprise land use management, residential development, social and community development, economic development, transportation infrastructure, utility and environmental infrastructure, urban design and landscape, built and cultural heritage and natural heritage and biodiversity.

The strategy for the future development of Headford focuses on the framework provided by the Regional Planning Guidelines and the Galway County Development Plan. The LAP establishes the framework to guide the development of Headford for the next 6 years. Development is set out as being focused on the sustainable development of the village over the next 15-20 years, thereby framing the policies and objectives set out in the LAP.

The Core Strategy and Settlement Strategy in the Galway County Development Plan set out the additional population allocations for County Galway and the various tiers in the settlement hierarchy, having regard to the population growth targets as set out in the Regional Planning Guidelines.

As outlined under Section 1.2 the LAP will be required to align with the Core Strategy and Settlement Strategy. Therefore taking into account the quantum of land included in the Headford LAP 2005-2011, there is a requirement to reduce the amount of land zoned residential. The plan must therefore consider the most appropriate residential development options such as phasing, rezoning or de-zoning in order not to exceed the maximum requirements of the 10.61ha from the Core Strategy and to ensure that suitable lands are brought forward for development during the plan period.

The LAP identifies specific policies and objectives applicable to Headford in order to facilitate land use in a manner that will promote proper planning and sustainable development.

A number of potential development options have been assessed, having regard to the Core Strategy, settlement hierarchy and village role envisaged in the Galway County Development Plan, the population and growth trends and potential of the village, the existing development pattern and character of the village, existing amenities and environmental sensitivities and the lands and services available for future development.

On the basis of this assessment, a preferred development option has been selected for Headford at this time (Figure 3.1). This option supports the consolidation of development with the plan area and supports the sequential development of the remainder of the urban core from the centre outwards and ensures that serviced residential lands closer to the village centre and public transport options are the primary focus for development in the short to medium term. This option would give greater certainty to the growth of the village, including rationalised land use zonings to align with the Core Strategy. This option will in turn encourage reduced travel demands, more sustainable transport options and ease of access to community facilities, employment sources and retail and service provision within the village.

The preferred Development Strategy Option has also been informed by the statutorily required Pre-Draft Strategic Environmental Assessment Screening and seeks to deliver on the Core Strategy requirements as set out for Headford in the County Development Plan in a planned and sustainable manner.

In order to deliver on the preferred option, a number of scenarios have been considered in relation to land use management and zoning:

1. Rezoning of lands

2. Specifying/introducing phased development on a number of zonings as appropriate

The phasing of residential development and the rezoning of certain lands for environmental reasons is considered the most appropriate approach at this time. Residential lands have generally been phased in a sequential manner and Phase 1 Residential has been identified for short to medium term growth in suitable locations that are serviced and accessible and which avoid significant environmental sensitivities. This includes urban infill sites, sequential extensions to the existing residential fabric and a significant growth area to the north and south of the centre of the village. The phasing as applied also allows for some flexibility, as detailed in the policies and objectives of the plan in Section 3.2.

The majority of areas identified as Flood Zones A or B under the SFRA for County Galway are zoned Open Space/Recreation & Amenity within the plan area. In addition there are also areas zoned as "Constrained Land Use", namely in developed areas of the village centre, which have been identified as susceptible to flooding. Limited uses are open for consideration for the Open Space/Recreation & Amenity zoning. Such developments would be assessed in accordance with the Planning System and Flood Risk Management Guidelines (2009) and the associated Circular PL2/2014.

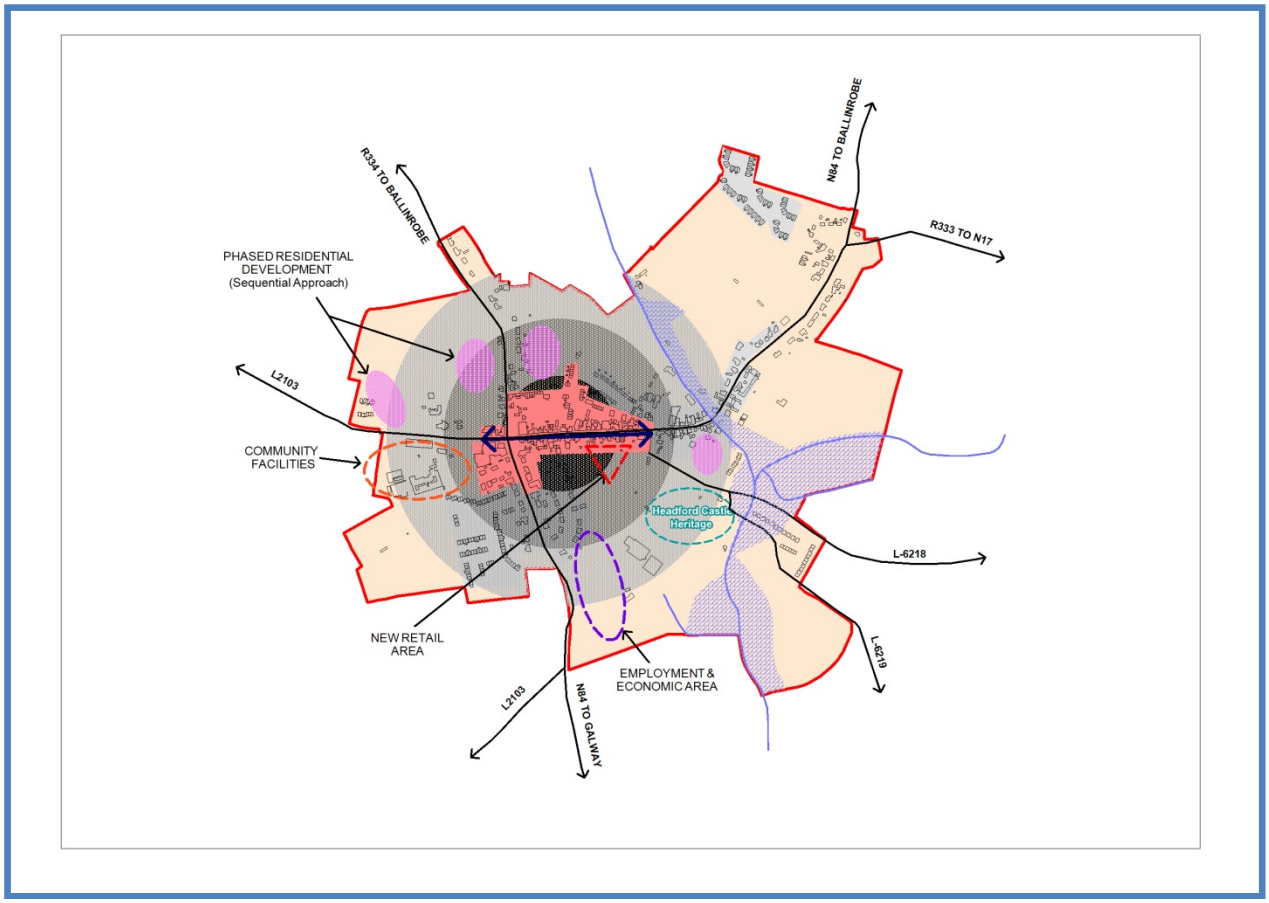

Figure 3.1 Preferred Development Option

3.2 Proposed Zoning

The phasing of residential development is considered the most appropriate approach at this time to meet the requirements of the Core Strategy. Residential lands have generally been phased in a sequential manner with Phase 1 residential lands identified for short to medium term growth in suitable locations that are serviceable and accessible and which avoid significant environmental sensitivities. This includes urban infill sites, sequential extensions to the existing residential fabric and growth areas and strategic growth areas within the plan area.

In general, undeveloped lands located within identified flood risk areas (in particular Flood Zones A and B) have been rezoned as Open Space/Recreational and Amenity and a "Constrained Land Use" zoning has been applied to developed lands in these areas "in accordance with the *Planning System and Flood Risk Management Guidelines for Planning Authorities 2009* and the associated *Circular PL2/2014.* The plan also includes policies and objectives to ensure that the sensitivities of the various environmental and flood risk areas are adequately considered, protected, managed, as appropriate, in the development management process.

Land Use Zone	Developed Land Area(ha)	Undeveloped Land Area(ha)	Total Area(ha)
R-Residential (Existing)	19.41	0.83	20.24
R-Residential(Phase 1)	/	10.29	10.29
R-Residential (Phase 2)	0.14	25.02	25.16
C1-Village Centre/Commercial	8.63	4.29	12.92
CL-Constrained Land Use	1.59	/	1.59
BE-Business and Enterprise	1.78	6.82	8.60
CF-Community Facilities	9.66	3.19	12.85
OS-Open Space/Recreation and Amenity	5.00	18.36	23.36
TI-Transport & Infrastructure	9.26	/	9.26
PU-Public Utilities	1.88	/	1.88
Total Plan Area	57.35	68.80	126.15

Table 3.1 Capacity of Zoned Lands within the Draft Headford Local Area Plan 2015-2021

Without development policies and objectives within the Local Area Plan which seek to protect water quality, maintain semi-natural habitats and adhere to relevant EU guidelines the Plan could have the potential to negatively affect local biodiversity including designated sites, habitats, species and migratory and foraging features in the landscape.

The following section discusses the habitats and potential environmental receptors associated with each land use zoning type which were identified at an early stage of development of the draft plan. It should be noted that no part of the plan area is included in a European (Natura 2000) site.

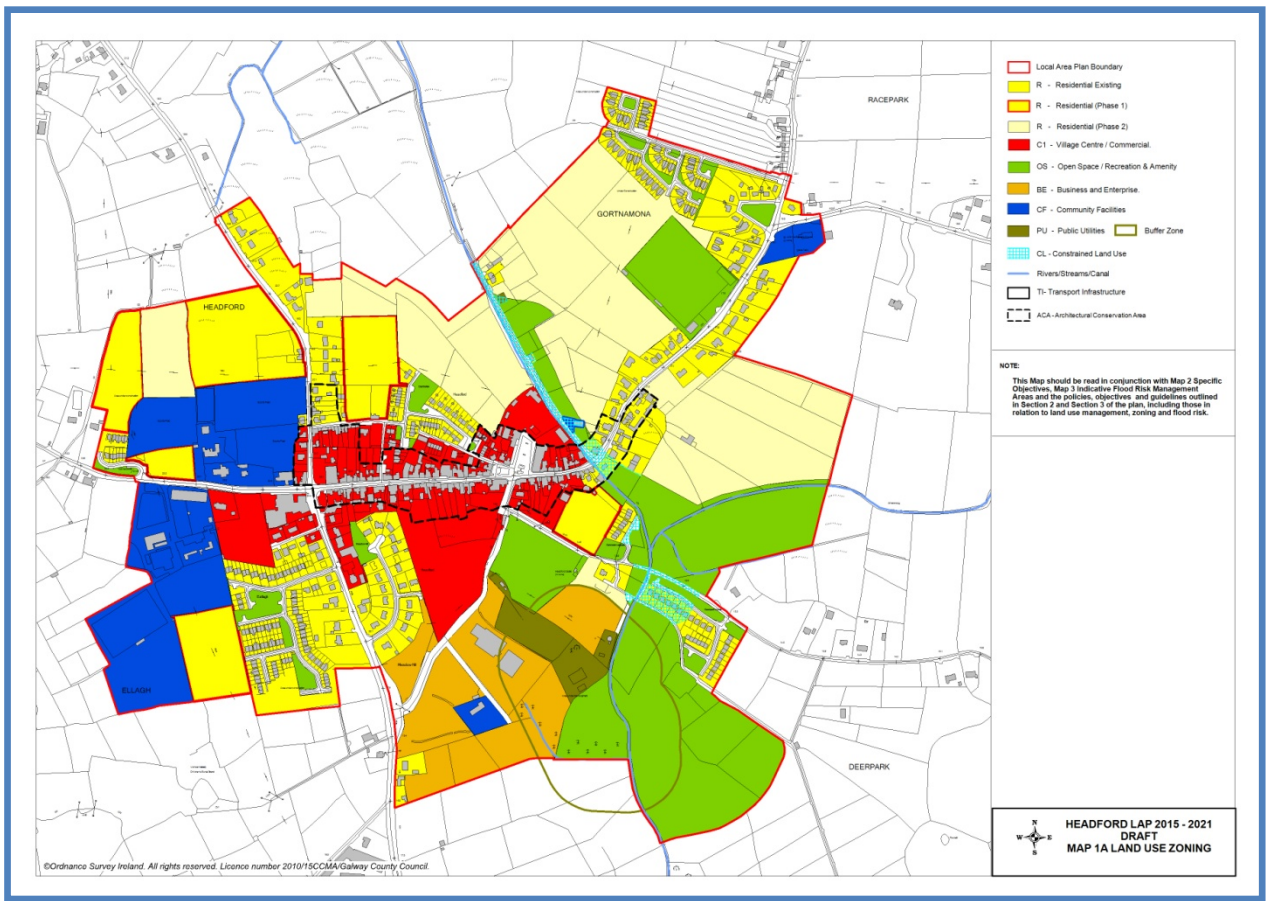

Figure 3.2 Land Use Zoning Map for Headford LAP

3.3. Description of Each of the Land Use Zonings

3.3.1 Residential Zonings Phase 1 and Phase 2

The Core Strategy in the Galway County Development Plan has identified a target population growth of up to 215 persons for Headford to 2021, which results in a requirement of 10.61ha of zoned land for residential purposes (based on 50% over-zoning). Due to the reduction in land zoned for residential development in line with the County Galway Core Strategy and the removal of lands zoned for residential in what is now open space or lands outside the plan boundary impacts for residential development zones can be mitigated at site/project level.There is a mixed pattern of residential development in the village. A number of suburban generated developments and one-off houses have occurred on local roads in recent years. There has also been some infill development in the village centre.

Residential Phase 1 lands are generally on improved agricultural grassland with large trees along the field boundaries. Residential Phase 2 lands are also on improved grassland with some areas of scrub land with hedgerow along these boundaries.

The potential impacts of residential development under the plan include reduced habitat quality from water or air pollution or disturbance to protected species during the construction or operational phases of projects. Some residential zoned lands are located close to the Annacurta Stream and Headford River which are susceptible to ground or surface water pollution. The river links the plan area to Lough Corrib.

The application of a range of policies and objectives contained in the Draft LAP including *Objective DS 3 Natura 2000 Network and Habitats Directive Assessment and Objective DS4 Development Management Standards and Guidelines and Objective NH5-Biodiversity & Ecological Networks* will assist in ensuring that these issues are considered should development applications present for these areas.

3.3.2 Open Space/Recreation and Amenity

There are 23.36 ha of zoned land identified as developed or undeveloped in the draft LAP. Many of these areas are composed of small areas of existing open green space associated with residential development. Areas have also been zoned Open Space/Recreation & Amenity following the Flood Risk Assessment, with the largest of these areas located to the south/east of the plan area. There are also a number of formal playing pitches in the village including the soccer pitches, the GAA grounds and the school fields within easy reach of the town centre and residents. Impacts identified with such zonings include disturbance to species through increased access and accompanying noise or human presence. However, the land use zoning matrix contained in the LAP has curtailed a range of potential uses for this zoning and have limited the number of uses that are open for consideration. It should also be noted that there are no uses permitted in principle within this land use zone.

3.3.3 Community Facilities

Community Facilities (CF) lands are mainly concentrated to the west of the plan area and in close proximity to village centre and existing/new residential zonings. Headford is served by two national schools, Headford Boys National School and Headford Girls and one secondary school, Presentation College. The location of these schools reflects the aim of the LAP to promote a vibrant core to the village and where community facilities are easily accessible by the local and surrounding populations. Where community facilities are located near watercourses there is the possibility of impacts on Natura sites connected to the area via surface or groundwater due to water pollution or disturbance of protected species. However, there is a range of policies and objectives contained in the plan designed to protect water and habitat quality through compliance with planning and environmental controls.

3.3.4 Business and Enterprise

There are four parcels of land zoned Business and Enterprise to the south of the plan area. The zoned lands consist mainly of agricultural grassland, an existing mart site and woodland to the rear of the mart site. It is considered that there is limited ecological potential within these lands.

The application of a range of policies and objectives contained in the draft plan including objective *DS3 Natura 2000 Network and Habitats Directive and Objective DS4 Development Management Standards and Guidelines and Objective NH5-Biodiversity & Ecological Networks* will assist in ensuring that these issues are considered should development applications present for these areas.

3.3.5 Village Centre/Commercial

The village centre/commercial area of Headford has developed along the National Secondary Galway-Castlebar Road (N84). This road approaches the village from the south and runs through the Main Street, to where the N84 meets the R334 and St. George's Square. The core retail area of Headford has recently expanded to the west of the cross roads on the N84 and while the site fronts onto the N84 it also extends along the L-2103-0 (Clarin Road). These areas are where the majority of economic and commercial activity takes place within the village.

Increased commercial activity in the village may have an impact on Natura sites in the wider area through reduced water, air or habitat quality as a result of increased traffic, air and water emissions or recreational pressure at protected sites. The application of a range of policies and objectives contained in the draft LAP including Natura 2000 Network and Habitats Directive Assessment and Objective DS4-Development Management Standards and Guidelines will assist in ensuring these issues are considered should development applications present for these areas.

3.3.6 Land Use Zonings and Flood Risk

The majority of areas identified as Flood Zones A or B under the SFRA for County Galway are zoned Open Space/Recreation & Amenity within the plan area. In addition there are also areas zoned as "Constrained Land Use", namely in developed areas of the town centre, which have been identified as susceptible to flooding , **(See Figure 3.5)**. Limited uses are open for consideration for the Open Space/Recreation & Amenity zoning, such uses developments will be assessed in accordance with the *Planning System and Flood Risk Management Guidelines* (2009) and the associated *Circular PL2/2014.*

3.4 Headford LAP & Nature Conservation Management

Headford LAP contains a dedicated section on Built Heritage and Natural Heritage (Sect. 3.8 & 3.9 respectively) which outlines the heritage features which are relevant to Headford and the policies and objectives which seek to protect these.

The built and natural Heritage in Headford includes a wide range of natural and manmade features that make an essential contribution to the environmental quality, biodiversity, landscape character, visual amenity, recreational activities, public health and investment potential of the village. The Headford Demesne is an example of a designed landscape which has been identified due to a number of features located within close proximity to each other, including a number of high stone walls that surround the many gardens and the demesne itself.

Planning Authorities must ensure that, any development proposal which is likely to have a significant effect on the a Special Area of Conservation, Special Protection Area, Natural Heritage Area or other area designated under statute for the conservation of features of natural or geological interest or other designated area, is authorised only to the extent that the Planning Authority is satisfied it will not adversely affect the ecological integrity of the area. Such a proposal must be subject to either an Appropriate Assessment Screening in the case of European sites and or/Environmental Impact Assessment Screening in the case of national sites or where adverse effects on the environment are considered possible. These screenings will assess, on the basis of a examination, whether the project could have a significant effect on the area. All aspects of the proposal, which could themselves or in combination with other proposals, affect the area's conservation objectives, should be identified.

There are a number of relevant policies and objectives in the plan (Policy NH1, Objectives NH1) which seek to protect designated sites, their qualifying interests and ecological integrity. The plan includes specific reference to the Natura 20000 network, EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EEC), the Planning and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No.477 of 2011) (and any subsequent amendments or updated legislation). Any plans or projects within the Plan which might potentially have significant effects on the Natura 2000 sites will be subject to the AA process.

Habitats and species which are listed in the Annexes to and/or covered by the EU Habitats Directive (92/43/EEC, as amended) and Birds Directive(2009/147/EC), and species that are protected under the Wildlife Acts 1976-2000 including ecological networks and corridors are also protected under the plan. In addition an ecological assessment is required where a proposed development within the plan area is likely to give rise to significant effects on a Natural Heritage Area or a proposed Natural Heritage Area.

Included within the Plan (Policy NH1,Objectives NH1) is the requirement of full compliance with EU Habitats Directive (92/43/EEC), SEA Directive (2001/42/EC) and EIA Directive 2011/92/EU and associated legislation/regulations, including the European Communities (Birds and Natural Habitats) Regulations 2011(SI No.477 of 2011), European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004-2011, the Planning and Development (Strategic Environmental Assessment) Regulations 2004-2011 and the European Communities (Environmental Impact Assessment) Regulations 1989-2011 (or any updated /superseding legislation). In addition, any

proposed developments within the Plan area which might give rise to significant environmental effects will require one or more of the following: an Environmental Impact Statement, an Ecological Impact Assessment Report, an Appropriate Assessment Screening Report or a Natura Impact Statement, as appropriate.

As part of the preparation of the Local Area Plan for Headford, Galway County Council has included policies and objectives which seek to protect and enhance biodiversity and ecological connectivity within the plan area including woodlands, trees, hedgerows, rivers, streams, natural springs, wetlands, stonewalls, geological and geo-morphological systems, other landscape features and associated wildlife *(NH5,NH7,NH8,NH9 & NH10)* where these form part of the ecological network and/or maybe considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive. In addition development which might impact on local watercourses which act as ecological corridors will be restricted and subject to ecological assessment. Native, local provenance planting will also be encouraged to enhance local biodiversity.

As part of the plan, there is a specific objective *NH2—Protected Habitats and Species* included which which seeks to protect Annex IV species such as Otter and Bat species along with their breeding, foraging and resting habitats.

Headford LAP also contains an objective-*NH11-Control of Invasive & Alien Species* specifically relating to alien species which promotes measures which seek to prevent the spread of invasive and alien invasive species. In addition, all newly proposed development will be required to take cognisance of invasive species and where appropriate will be required to submit invasive species management plans.

3.5 Existing Environment

3.5.1 Water Quality

The Plan area falls within the catchment of the Western River Basin District (WRBD) and as such, much information regarding the environmental baseline is derived from the Western River Basin Management Plan (WRBMP).[1]

The Western RBMP takes into account lakes, rivers, groundwater, transitional and coastal waters. Information on the status and pressures on water bodies can be derived from the WRBD database. The following are the relevant water bodies that are located within the Headford plan boundary:

- **The Clare-Corrib Ground-Waterbody (IE_WE_G_0020**). According to the Water Framework Directive, the groundwater body Clare-Corrib has an overall status of "poor". The groundwater body is at risk of not achieving a good ecological or good chemical status/potential by 2015. There are a number of objectives identified for this groundwater body in order to restore the groundwater status by 2021 as follows:
    - Prevent Deterioration
    - Restore Good Status
    - Reduce Chemical Pollution
    - Achieve Protected Areas Objectives

- **The Headford River, Tributary of Corrib (IE_WE_30_3484).** According to the Water Framework Directive (2009), the river water-body had an overall status of "moderate". The river was at risk of not achieving good ecological or good chemical status/potential by 2015. The latest status in 2011(source GCC/EPA) has the overall status of the river water body as "good" and therefore there is an upward trend in the quality status. The overall objective as outlined by the WFD(2009) is to restore that status of this river by 2021, as follows:
    - Prevent Deterioration
    - Restore Good Status
    - Reduce Chemical Pollution
    - Achieve Protected Areas Objectives

- **The Lough Corrib (Lower) (IE_WE_30_6669**). According to the Water Framework Directive (2009), the lake waterbody had an overall status of "moderate". The lake was at risk of not achieving good ecological or good chemical status/potential by 2015. The latest data in 2011(GCC/EPA) has indicated an overall status of the lake as "moderate".
  There are a number of objectives identified for this water body in order to restore the waterbody status by 2021 as follows:
    - Prevent Deterioration
    - Restore Good Status
    - Reduce Chemical Pollution
    - Achieve Protected Areas Objectives

The EU Water Framework Directive 2000/60/EC requires member states to ensure that all their waters (including surface and groundwater) achieve at least "good status" by 2015 and to ensure that the current status does not deteriorate in any waters. While the Headford River has improved its status from "moderate" to "good" this can contribute to the improvement in the "moderate status" of Lough Corrib (lower).

[1] The Western River Basin District Management Plan 2009-2015 is a plan for the implementation of the EU Water Framework Directive, which commits all Members States to preventing deterioration and achieving at least good status in our rivers, lakes, estuaries, coastal and ground waters by the year 2015. The plan describes actions that are proposed to ensure the necessary protection of waters over the coming years. It sets out how the aims and objectives of improving and protecting water quality and ecology in the waters of each river basin district could be achieved, by means of a Programme of Measures.

3.5.2 Groundwater

The LAP area is underlain by the Clare-Corrib groundwater body. This groundwater is a large regionally important karstified aquifer dominated by conduit flow. There are some small areas in the vicinity of Headford which have been categorised as having a locally important aquifer which is productive only in local zones. Groundwater velocities are variable with much higher east-west transmissivity and lower velocities in then north-south domain. Overall, flow is in the southwest direction with all groundwater discharging into Lough Corrib. The Geological Survey of Ireland aquifer categories are based on their vulnerability to pollution i.e. the ease of which it can enter the subsurface layers. Aquifers described with "development potential" are more sensitive to pollution than aquifers with "poor development potential". Similarly aquifers of "high or extreme vulnerability" are more sensitive to pollution. The Clare-Corrib Groundwater body has been classified as "Poor" status with a requirement to restore it to "Good" status by 2015. The plan area consists of regionally important conduit Karst Aquifer, where development potential is limited.

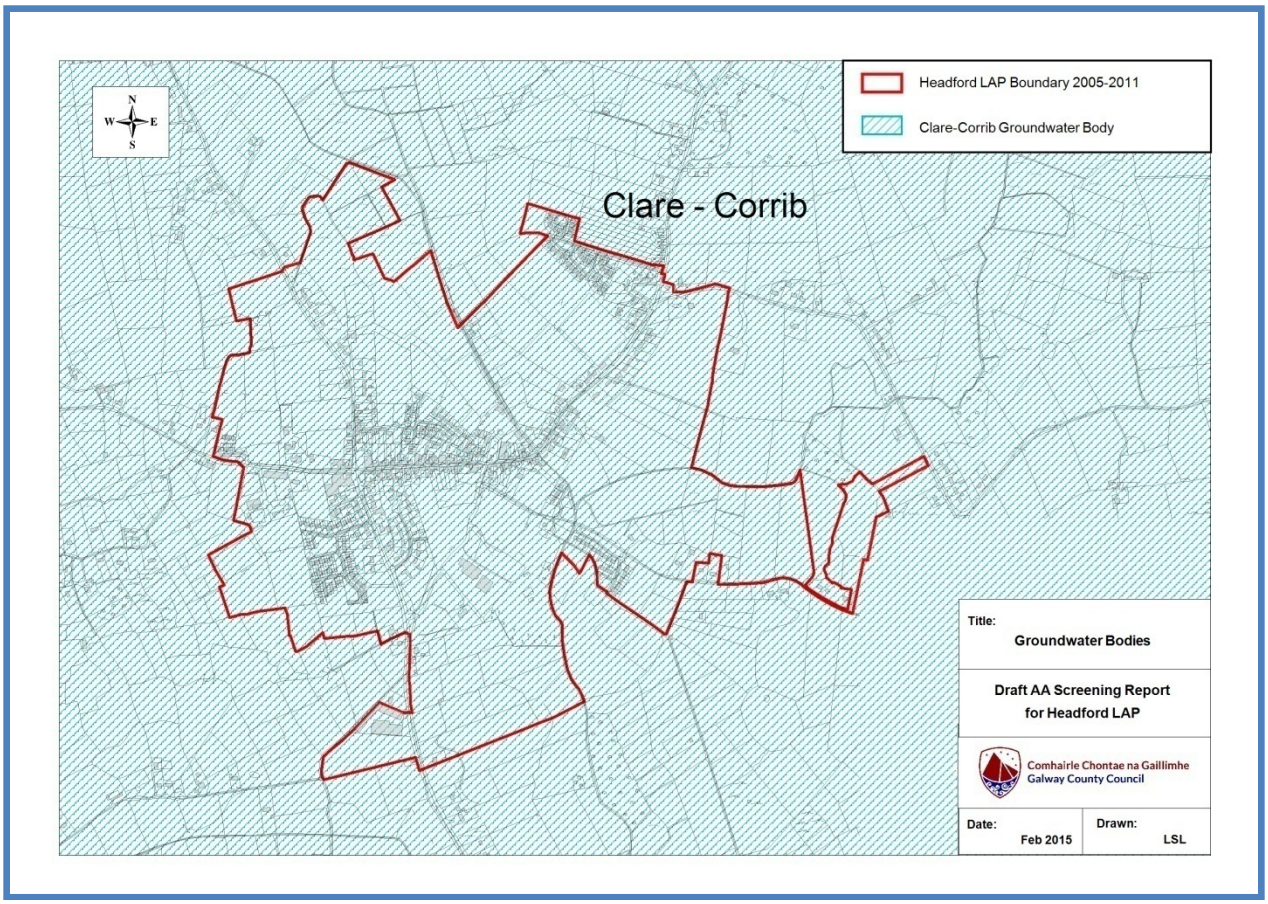

Figure 3.3 Groundwater Bodies

3.5.3 Wastewater

Headford is served by its own wastewater treatment facility that has adequate capacity to cater for the future population growth outlined under the Core Strategy. The Headford Wastewater Treatment System is an activated sludge treatment process and uses sequential batch reactors with phosphate reduction and tertiary filtration. The existing treatment works has a design capacity of 3,000 PE. A study of the ultimate design requirements was also undertaken at the design stage and provisions have been made at the existing treatment works layout for a future expansion to 6,000 PE. The current scheme was designed on the basis of an equivalent population of 3,000 persons. Final effluent for the waste water treatment plant discharges to the primary discharge point at the Headford Stream via 600mm concrete pipe with non-return flap valve. The primary discharge point is a shared outfall discharging treated effluent after

tertiary treatment and also an overflow from the storm tank should the capacity of the storm tank be exceeded. Effluent from the tertiary filter flows to the effluent storage tank before overflowing to the outfall chamber. Any overflows from the storm tank that could not be returned to the inlet works is conveyed to the final effluent chamber also. This combined flow is then conveyed to the outfall at the Headford Stream via the 600mm outfall pipeline. The EPA has issued a discharge licence for the wastewater from the treatment plant. In order to ensure that surface water is disposed of appropriately, future developments will be required to address surface water disposal in a controlled and sustainable manner, through on-site systems, discharge to adjacent surface water (where available) or discharge to an existing surface water sewer if available. In Headford the surface water disposal is generally via a combined sewer network.

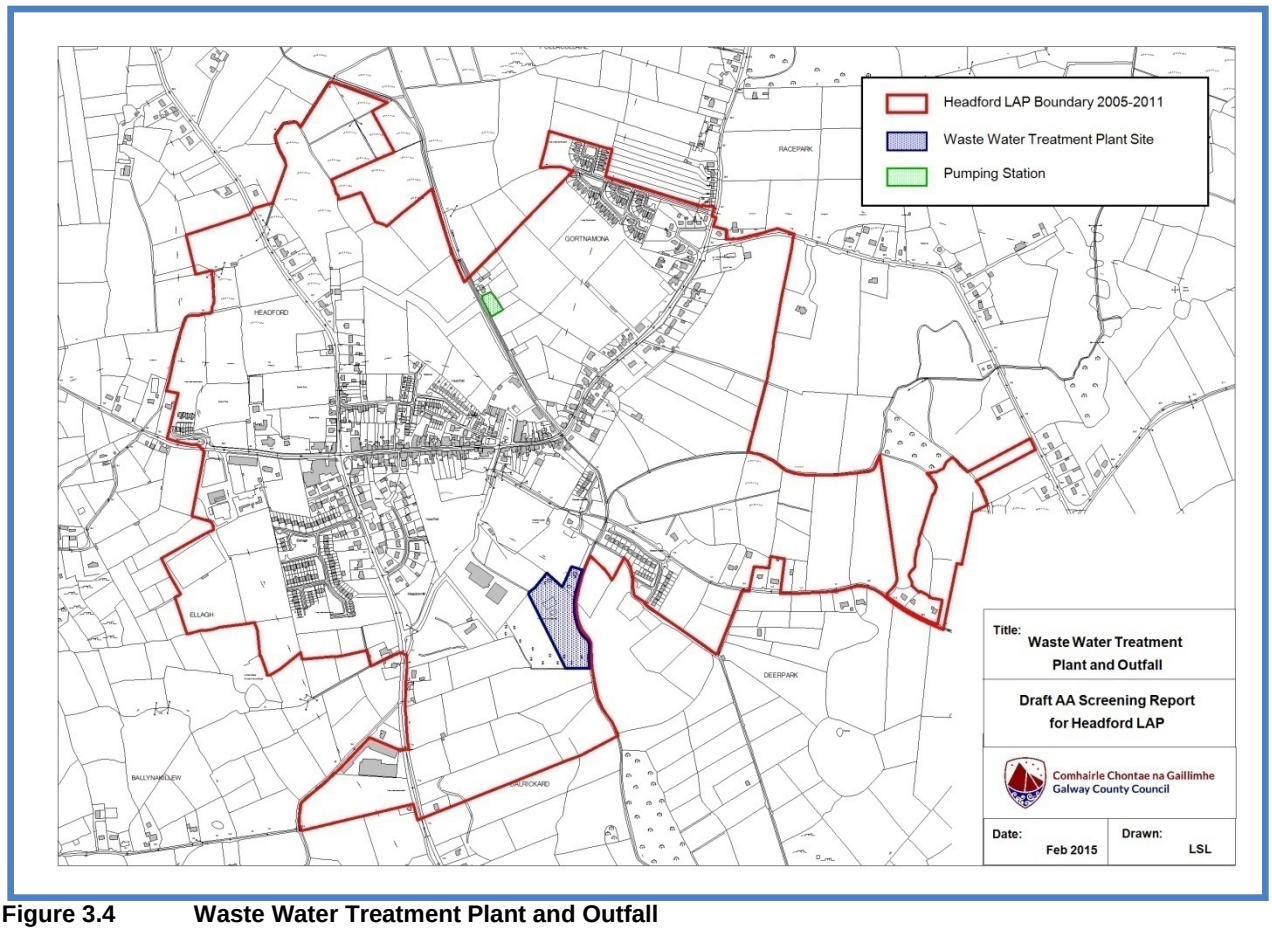

Figure 3.4 Waste Water Treatment Plant and Outfall

3.5.4 Flood Risk Management and Assessment

The Planning System and Flood Risk Management, Guidelines for Planning Authorities(DEHLG, 2009) defines flooding as; "a natural process that can happen at any time, in a wide variety of locations". Flooding can be caused from a variety of sources - from the Sea and from Rivers, but in addition prolonged, intense and localised rainfall can also cause sewer flooding, overland flow and groundwater flooding". Flood risk management within the Headford LAP area is informed by the OPW "Pre-Draft Flood Risk Management (PFRA) and County Galway Strategic Flood Risk Assessment (SFRA).

The majority of areas identified as Flood Zones A or B under the SFRA for Headford are zoned Open Space/Recreation & Amenity within the plan area. In addition there are also areas zoned as "Constrained Land Use", namely in developed areas of the village centre, which have been identified as susceptible to flooding , **(See Figure 3.5)**. Limited uses are open for consideration for the Open Space/Recreation & Amenity zoning. Such developments will be assessed in accordance with *The Planning System and*

Flood Risk Management Guidelines (2009) and the associated *Circular PL2/2014*. Flood Zones are identified in the map below (Figure 3.5).

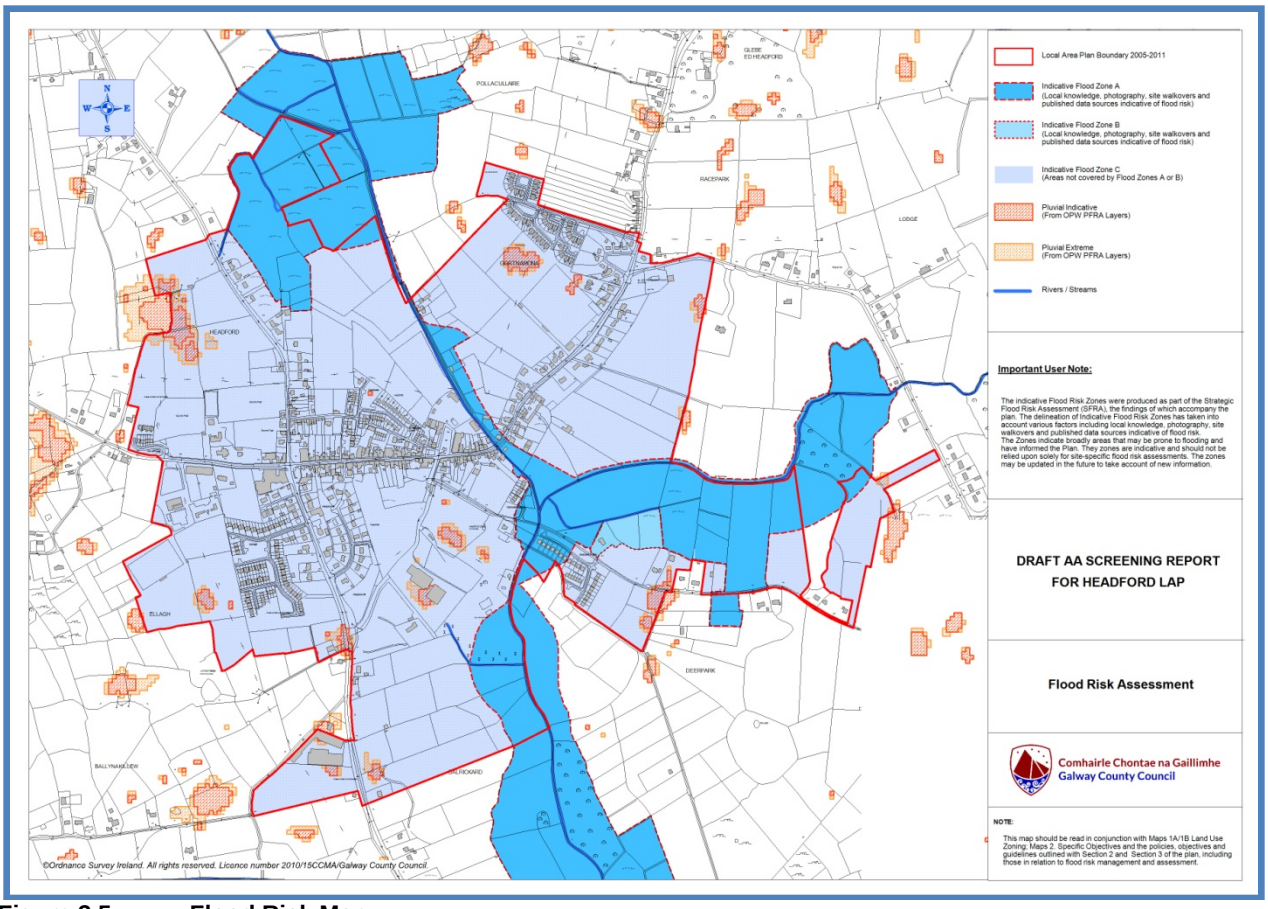

Figure 3.5 Flood Risk Map

3.6 Natura 2000 Sites & Natural Heritage Areas Occurring Within 15km Buffer of the Headford LAP

This section of the screening process describes the Natura 2000 sites within a 15km of the LAP area. A 15 km buffer zone has been chosen as a precautionary measure to ensure that all potentially affected Natura 2000 sites are included in the screening process. Figure 3.6 indicates the location of the Headford LAP area in relation to SACs within 15km. This is in line with *Appropriate Assessment of Plans and Projects in Ireland-Guidance for Planning Authorities*, produced by the Department of the Environment, Heritage and Local Government.

There are a total of eleven Natura 2000 sites within 15km of the Headford LAP boundary. The nearest Natura designated sites are the River Corrib SAC and SPA. Lough Corrib is the largest lake in Ireland and of national importance for the range of habitats and species it supports. These include 14 habitats which are listed on Annex I of the E.U. Habitats Directive, six of which are priority habitats, and nine species which are listed on Annex II. The lake is also internationally important for birds, and is a designated SPA for 13 bird species of which Arctic Tern, Black-headed Gull, Common Gull, Common Scoter, Common Tern, and Tufted Duck are known to occur and have been recorded at Greenfield (Inchiquin), Headford.

Nearby NHA designated sites which support wildfowl species found at Lough Corrib are considered likely to have these birds located within their sites as the birds may commute between sites. Rostaff Turlough NHA is about 2km northwest of Headford and is a bird sanctuary supporting nationally important numbers of Shoveler, as well as locally important numbers of several species of wildfowl. Annex I bird species which are found here include the Golden Plover, Whooper Swan and Greenland White-fronted Geese. Lough Hackett and Turloughcor NHAs within 5km of Headford are locally important small lakes with the latter supporting nationally important numbers of Galwall and Shoveler.

Many of those Natura 2000 sites within 15km of Headford are water dependant sites and turlough and fen habitats in particular which are dependent on groundwater. Given the location of Headford, within a karst region and a regionally important aquifer it is considered that there are hydrological pathways which could cause risks to water quality. As wetlands, these habitats are vulnerable to a range of activities which may occur within the plan area and could negatively impact on water, air quality or hydrological conditions.

Reduced habitat quality or disturbance caused by human presence and activity could also be damaging to protected species of plants and animals. The animal species listed as qualifying interests for Natura 2000 sites within 15km most likely to be affected by development within the plan area are considered to be birds, Otter, Salmon and Lesser Horseshoe Bats.

Both otter and Lesser Horseshoe Bat are known to have migration ranges that can extend up to a number of kilometres from their roost or holt. Otters are known to occur within the plan boundary and it is possible they may migrate between Lough Corrib and Headford town via the Annacurta River otherwise known as the Headford River. The habitats within the plan area are unlikely to attract Lesser Horseshoe bats for foraging or roosting sites due to lack of suitable habitat and the fact that it avoids urban areas. However, it is possible that the bats forages at the outer limits of the plan boundary or that suitable hibernation sites exist within the plan boundary.

Similarly, waterbirds or wildfowl listed as qualifying interests for Lough Corrib SPA are unlikely to migrate into the plan area as it lacks suitable habitat. The most likely disturbance pathways for these species are from increased human presence and activities in the plan area. In particular increased recreational activity such as walking, fishing, boating, hunting could result in higher residential populations or local tourism initiatives under the plan.

Atlantic salmon migrate from the spawning and nursery grounds in the rivers to the sea and return again as adults to breed. Salmon in the Headford River and associated streams will pass through Lough Corrib on their migrations. This species requires clean water and suitable spawning grounds and migration passages to thrive. Damage to water quality or river habitat structure would have the potential to negatively impact on the salmon population. River/Brook Lamprey has also been recorded on upper section of the Headford River. They do not undertake anadromous migrations and it is unlikely the Headford River population would migrate to Lough Corrib.

Table 3.2 lists these Natura sites with their respective codes, distances from the LAP boundary and potential pathways between the sites and the plan area.

Natura 2000 Site	Distance from Headford LAP Boundary	Hydrological Pathway?	Aerial Pathway?	Disturbance Pathway?
The River Corrib SAC(000297)	3.4KM	Surface water links exist via the Headford River and Black River (outside of plan area) to Lough Corrib. The LAP area is within the Clare-Corrib Groundwater Catchment so groundwater linkages also likely.	This site is at a distance unlikely to create aerial impacts.	Otters may migrate between Lough Corrib and the plan area. Salmon migrate between Headford River and associated streams and Lough Corrib. Brook/River lamprey unlikely to migrate between Headford River and Lough Corrib.LH Bats unlikely to forage, roost or hibernate within the plan boundary. Possible disturbance from increased recreational or other activity at Lough Corrib.
The River Corrib SPA (004042)	3.4KM	Surface water links exist via the Headford River and Black River (outside of plan area) to Lough Corrib. The LAP area is within the Clare-Corrib Groundwater Catchment so groundwater linkages also likely.	This site is at a distance unlikely to create aerial impacts.	Waterbirds or wildfowl unlikely to migrate into plan area. Possible disturbance from increased recreational or other activity at Lough Corrib.
Cloughmoyne SAC(	3.5KM	This site not a wetland habitat and at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	No qualifying species for this site.
Mocorha Lough SAC(00153)	7.2KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	No qualifying species for this site.
Shrule Turlough SAC (000525)	5.6KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	No qualifying species for this site.
Clyard Kettle-holes SAC(000480)	11.1KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	No qualifying species for this site.
Ardkill Turlough SAC (000461)	14.1KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	No qualifying species for this site.
Skealoghan Turlough SAC (000541)	14.4KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	No qualifying species for this site.
Greaghans Turlough SAC (000503)	14.5KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts	No qualifying species for this site.
Gortnandarragh Limestone Pavement SAC (001271)	7.7KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	No qualifying species for this site.
Ross Lake and Woods SAC(001312)	11.5KM	This site is at a distance and direction unlikely to create hydrological impacts	This site is at a distance unlikely to create aerial impacts.	LH Bats from this site unlikely to migrate across Lough Corrib to the Plan area

Table 3.2 Natura 2000 sites within 15km of the Draft Headford LAP

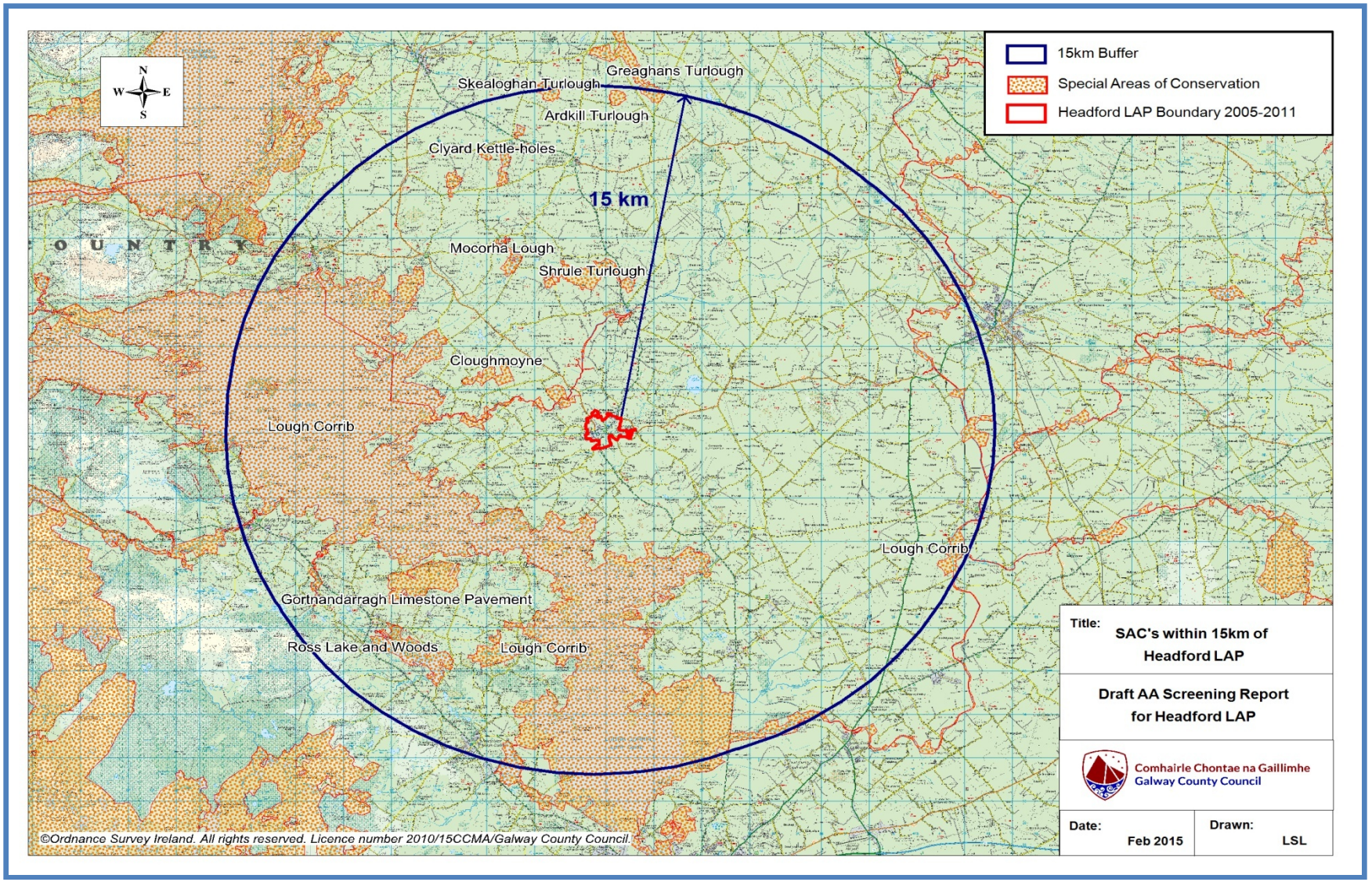

Figure 3.6 SAC's within 15km of Plan Area

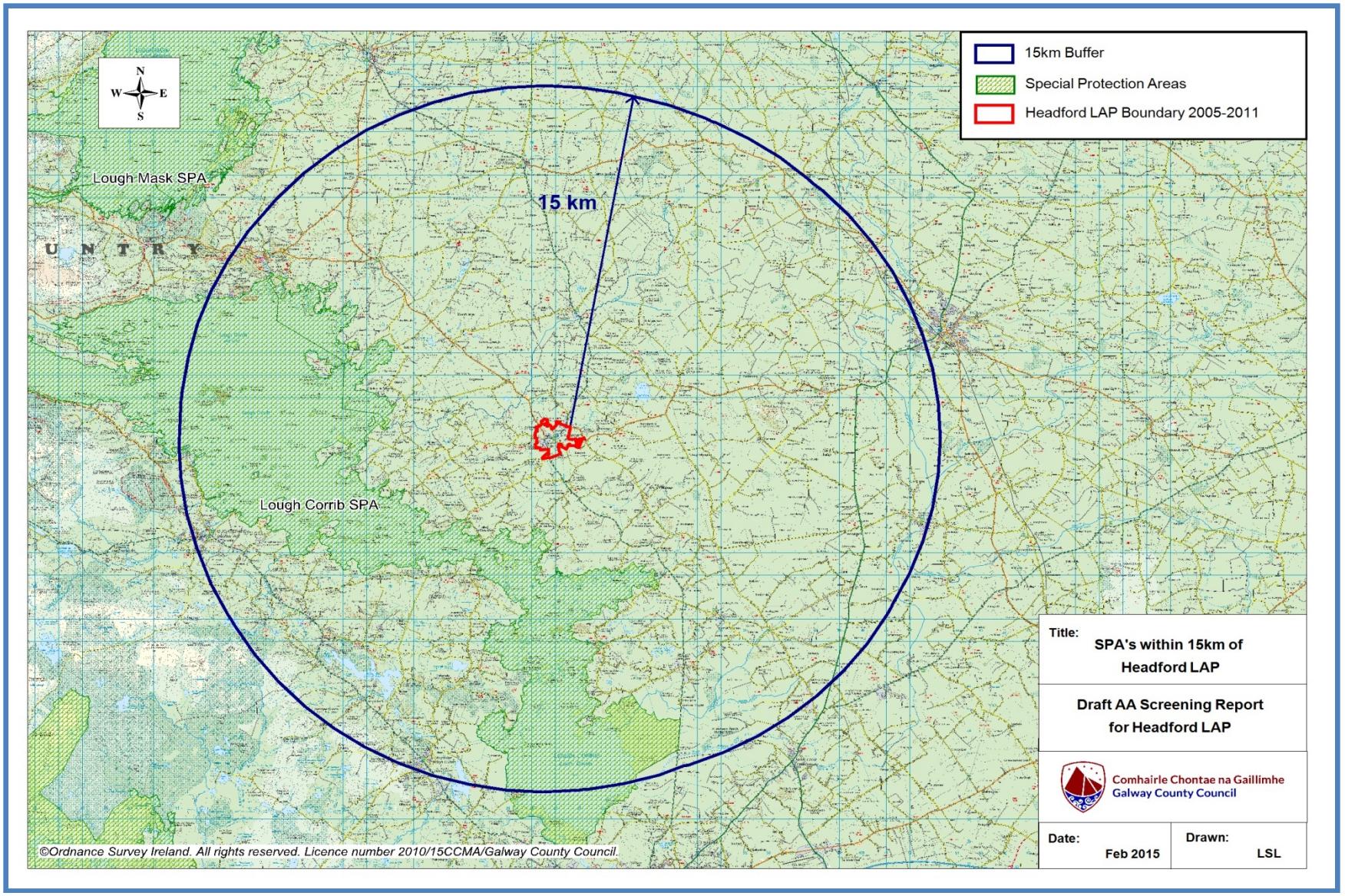

Figure 3.7 SPA's within 15km of Plan Area

3.7 Detailed Description of Natura 2000 Sites within the Sphere of Influence of the Headford LAP

3.7.1 Introduction

Site synopses for all eleven Natura 2000 sites which show a linkage to the plan area are provided in **Appendix A. Appendix B** provides a description of the European sites which are recognised as having linkages or pathways to the Plan area as detailed in Table 3.2. Within Appendix B information is provided on the following elements

- Qualifying Interests
- Threats
- Site Sensitivity/Vulnerability
- Linkages between Site and plan area

The qualifying interests are the features for which the site has been designed as a Natura 2000 site under the Habitats Directive and Birds Directive.

Threats are those activities which have been identified as threatening the habitat/species conservation status in Ireland outlined in the 2013 Article 17 Reports on the Status of protected Habitats and Species in Ireland (NPWS, 2013).

Site Sensitivity/vulnerability is based on the sensitivities of the qualifying interests for which the site is designated. For example, Lough Corrib SAC has been designated for the presence of Habitat code [3140] Hard Water Lakes among other habitats. Identified threats to this habitat type include surface water pollution and groundwater pollution from forestry, agriculture, industry, domestic wastewater and invasive species. This habitat is dependent on surface and groundwater water quality, is sensitive to hydrological changes and pollution and to nutrient enrichment leading to changes in tropic status.

3.7.2 Conservation Objectives

At the time of this assessment, specific Conservation Management Plans were unavailable for all Natura 2000 sites, which are considered to be linked to the plan area. For sites lacking a published plan, a list of generic conservation management objectives (CMOs) have been provided by the NPWS.
These objectives are as follows:

For SACs

- To maintain the Annex I habitats for which the SAC has been selected at favourable conservation status;
- To maintain the Annex II species for which SAC has been selected at favourable conservation status;
- To maintain the extent, species richness and biodiversity of the entire site; and
- To establish effective liaison and co-operation with landowners, legal users and relevant authorities

For SPAs

- To maintain the bird species of special conservation interest, for which the SPA has been designated, at favourable conservation status.

Since the conservation management objectives for the Natura 2000 sites focus on maintaining the favourable conservation status of the qualifying features of each site, and the Screening Assessment has concentrated on assessing the potential implications on the LAP against the qualifying features of each site.

4.0 Interactions Between Headford LAP Policies and Objectives and Natura 2000 Sites

4.1 General Interactions

There are no designated sites within the plan boundary however; it is considered that there may be indirect impacts on habitats or species listed as qualifying interests in Natura 2000 sites which are hydrologically connected to the plan area. Such impacts could arise through reduction in habitat quality due to water pollution or changes to the hydrological regime of the sites. Disturbance to animal species due to development or activities associated with the plan may also occur.

Table 4.1 lists the policies and objectives of the Headford LAP which if considered in isolation might provide potential for adverse impacts on the qualifying interests of Natura 2000 sites. The majority of the policies and objectives set out in the plan will have a neutral impact on Natura 2000 sites.

Policies and objectives associated with land use zonings, when considered in isolation, will have the potential to result in adverse impacts on Natura 2000 sites which are outside the plan area and are hydrologically connected to Headford. In addition, policies and objectives associated with land use zoning will when considered in isolation, have the potential to adversely impact on qualifying species of European (Natura 2000) sites which may make use of the area included in Headford LAP. These potential adverse impacts, which relate to hydrological, aerial and disturbance are summarised in **Table 4.1.**

However, the Headford LAP also contains a number of measures specifically to ensure that development or activities from the plan will not have a significant impact on Natura 2000 sites. For example Policies NH1, and Objectives DS3, NH1, NH2, NH4 require strict compliance with Article 6 of the Habitats Directive and that all projects or plans for the area will be subject to AA Screening.

In relation to the protection of groundwater and surface waters in the plan area there are a number of policies and objectives *(Policy WQ1- Water Quality, Objective WQ1-Western River Basin District Management Plan and Protection of Waters and WQ2 - Groundwater and Aquifers.* These objectives will protect the surface and groundwater quality in and around the LAP area including that of the Headford Stream and the Natura 2000 sites which are hydrologically connected to the LAP area.

The inclusion of objectives *FL9-Water Bodies and Watercources, FL10-Arterial Drainage Scheme and NH8-Riparian Zones* ensures that there is generally a 10metre buffer for all riparian habitats and or watercourse systems throughout the plan area are protected from an ecological perspective and that potential negative impacts to water quality of the Headford Stream and other water bodies hydrologically connected to the plan area as a result of development within the plan boundary are minimised.

Policies and objectives within the plan which negate any potential adverse impacts are outlined in table 4.2 below.

As illustrated on **Table 3.2** there are eleven Natura 2000 sites within 15km of the LAP lands, which are considered to have some link or pathway to the plan area.

Table 4.1 Policies and Objectives within Headford LAP which have the potential to Impact Nature 2000 Qualifying Interests or Ecological Conditions which support those interests.

Objective or Policy	Possible effect	Potential negative impact if considered in isolation
Objective DS 6 – Residential Development Phasing Direct residential development into appropriately zoned and serviced areas in accordance with the phased development framework set out in **Sections 3.1** and **3.2** and on **Map 1A/1B - Land Use Zoning**.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective LU 1 – Village Centre/Commercial (C1) Promote the development of the Village Centre as an intensive, well connected, high quality, well-landscaped, human-scaled and accessible environment, with an appropriate mix of uses, including residential, commercial, service, tourism, enterprise, public and community uses as appropriate, that provide a range of retail, services, facilities and amenities to the local community and visitors to the village. The village centre and associated main streets shall remain the primary focus for retail and service activity within Headford.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective LU 2 – Residential (R) Promote a phased, sequential approach on Residential zoned lands, with a strong emphasis on consolidating existing patterns of development, encouraging infill opportunities and promoting sustainable transport options. It is an objective to: **a)** Promote the development of appropriate and serviced lands to provide for high quality, well connected and well laid out and landscaped sustainable residential communities with an appropriate mix of housing types and densities, together with complementary land uses such as community facilities, local services and public transport facilities, to serve the residential population of the area. **b)** Protect existing residential amenities and facilitate compatible and appropriately designed new infill development, in accordance with the proper planning and sustainable	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.

development of the area. A phasing scheme shall apply to residential uses on Residential (R) zoned lands, as set out under **Objective RD1** in **Section 3.2.1.**		
Objective LU 3 – Business & Enterprise (BE) Promote the development of business and enterprise uses, light industry/warehousing and the facilitation of enterprise park/office park type uses to include incubation/start-up units and Small Medium Enterprises, on suitable lands with adequate services and facilities and with a high level of access to the major road networks and to public transport facilities.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective LU 4 – Community Facilities (CF) Promote the development of community facilities on suitable lands, with a high level of access to the local community, including educational, community, civic, public, institutional, recreational, cultural and other complementary uses, as appropriate.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective LU 5 – Open Spaces/Recreation & Amenity (OS) Promote the sustainable management, use and/or development, as appropriate, of the OS lands. This will include the: a) Development of open spaces and recreational activities, in accordance with best practice and on suitable lands with adequate access to the local community and retain existing open space and recreational facilities, unless it can be clearly demonstrated to the satisfaction of Galway County Council that these uses are no longer required by the community; b) Appropriate management and use of any flood risk areas within the OS zone to avoid, reduce and/or mitigate, as appropriate, the risk and potential impact of flooding; c) Appropriate management and use of any areas of high biodiversity value.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and to mobile species.
Objective LU 6 – Public Utilities (PU)	Development and operational phases:	Development and operation

Facilitate the provision and maintenance of essential public utility infrastructure, together with necessary ancillary facilities and uses, as appropriate.	Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	of public utility infrastructure e.g. WWTP or Electricity may have effects on air or water quality or mobile species.
Objective LU 7 – Transport Infrastructure (TI) Facilitate the provision and maintenance of essential transportation infrastructure. This shall include the reservation of lands to facilitate public roads, footpaths, cycle ways, bus stops and landscaping, together with any necessary associated works, as appropriate.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development of roads and other transport infrastructure has the potential to impact on air and water quality and disturb mobile species.
Policy RD 2 – Phased Development on Residential Zoned Lands It is the policy of Galway County Council to encourage orderly, sequential and phased residential development in accordance with the Preferred Development Strategy and the land use management and zoning provisions set out in this Local Area Plan. This shall include a positive presumption in favour of the sequential development of suitably serviced R - Residential (Phase 1) lands in order to align the Local Area Plan with the Core Strategy/Settlement Strategy in the current Galway County Development Plan, subject to compliance with the policies and objectives in this Local Area Plan and the principles of proper planning and sustainable development. There will be a general presumption against residential development on lands zoned R - Residential (Phase 2) within the lifetime of the Local Area Plan, subject to the exceptions provided for under the Residential Development Objective RD1.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The phased approach and objectives to abide by principles of proper planning and sustainable development would safeguard biodiversity. Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective RD1 – Phased Residential Development **(Refer to Map 1A/1B - Land Use Zoning)** Support the development of lands designated as R - Residential (Phase 1) within the lifetime of the Local Area Plan, subject to normal planning, environmental, access and servicing requirements, and reserve the lands designated as R - Residential (Phase 2) for the longer term growth needs of the town. R - Residential (Phase 2) lands are generally not developable within the lifetime of this Plan, with the exception of the following developments, which may be considered by the Planning Authority within the	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard	The phased approach and objectives to abide by principles of proper planning and sustainable development would safeguard biodiversity. Any development on

lifetime of this Local Area Plan subject to a suitable case being made for the proposal: 1. Single house developments for family members on family owned lands. 2. Non-residential developments that are appropriate to the site context, any existing residential amenity and the existing pattern of development in the area. 3. Where it is apparent that R - Residential (Phase 1) lands cannot or will not be developed within the plan period, residential development may be considered in a phased manner on some R- Residential (Phase 2) lands. Development on Residential-Phase 2 lands will normally only be considered where 50% of the lands in Residential-Phase 1 are committed to development. The above exceptions will be subject to compliance with the Core Strategy in the Galway County Development Plan, the policies and objectives in this Local Area Plan, the principles of proper planning and sustainable development and to meeting normal planning, environmental, access and servicing requirements. Developments will only be permitted where a substantiated case has been made to the satisfaction of the Planning Authority and the development will not prejudice the future use of the lands for the longer term growth needs of the town.	landscaping and runoff water. Introduction of invasive plant or animal species.	undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective RD 8 – Compatible Development Facilitate the development of appropriate, compatible uses within residential areas, subject to ensuring that an adequate amount of Residential zoned lands are retained and can be developed for residential uses to meet the growth needs of the village within the plan period. Non-compatible uses include those uses that may generate large amounts of traffic, emissions, pollution, noise, odour, etc., or uses that can impact negatively on residential amenity.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective RD 9 – Other Residential Development There shall be a general presumption in favour of the development of nursing homes and retirement facilities and community/day care centres on residential zoned lands, community facility zoned lands or adjacent to the established town centre or as suitable re-use for protected structures or other buildings (e.g. institutional or educational buildings) that would have limited re-development potential given their size and architectural character, subject to normal planning, environmental, access and servicing requirements.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.

Objective RD 10 – Connectivity Between Phased Residential Lands Ensure that development proposals for the R-Residential (Phase 1) lands consider and provide for both vehicular, pedestrian and cycle access, as appropriate to adjoining R–Residential (Phase 2) lands. Provision should also be made in development proposals for green space linkages between both the R-Residential (Phase 1) lands and the R-Residential (Phase 2) lands in these areas, as appropriate.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective CF 1 – Lands for Community & Recreation & Amenity Facilities Ensure that there are adequate lands zoned and services to cater for the establishment, improvement or expansion of educational, community, recreation and amenity facilities within the plan area. This will include the reservation of lands for existing community facilities and for the expansion and provision of additional community facilities to existing community facility lands.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective CF 2 – Educational Facilities Support the provision of adequate educational facilities for the local community including primary, post primary and other training facilities, in order to meet the needs of the widest range of residents within Headford and its environs.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective CF 3 – Childcare Facilities Facilitate and promote the development of childcare facilities in suitable locations and in accordance with national policy and the Department of the Environment, Heritage and Local Government '*Childcare Facilities-Guidelines for Planning Authorities' 2001,* (or any	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint,	Any development on undeveloped zoned land has the potential to adversely impact air and

updated/amended version of this document).	oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	water quality and mobile species.
Objective CF 4 – Health Services Seek to facilitate the continued improvement and expansion of health and medical care facilities within Headford in a planned and co-ordinated way by seeking to accommodate projects that assist in providing health and medical care facilities, together with their necessary support services and developments, as well as their infrastructural requirements.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective CF 6 – Sports, Play and Recreation Facilities Support the provision of new sports, play and recreational facilities to service the needs of the local community, require the provision of play/recreation facilities in new large residential developments, and facilitate the development of same in other appropriate locations in the village, including supporting public/community initiatives to provide same.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective CF 7 – Community, Recreation and Amenity Facilities Retain existing facilities and lands zoned for such uses, and prevent their change of use or redevelopment, unless it can be clearly demonstrated that the facility/lands are no longer required and that the new use or development contributes to the overall community needs and recreation and amenity needs of the Headford area.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.

Objective CF 8 – Amenity Network Support the establishment of an accessible network of greenway linkages and amenities that provide safe and attractive circulation routes for pedestrians and cyclists and for the enjoyment and recreational use of the entire community.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from to species from traffic or construction.. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective CF 9 – Riverside Networks **(& Refer to Map 2A/2B** – ***Specific Objectives)*** Encourage and support the development of riverside walkways and cycleways throughout the plan area where feasible and incorporate same into the development of adjacent lands, as appropriate. Indirect impacts on natural heritage and designated conservation areas arising from such networks will be appropriately considered as part of any proposal.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Impact avoidance measures included to safeguard natural heritage and designated conservation areas. Development of riverside habitats for recreation may impact on water and habitat quality and cause disturbance to protected species.
Objective ED 1 – Employment & Economic Development Support the Economic Development Strategy of the *West Regional Authority Regional Planning Guidelines 2010-2022* (or as updated) and the economic development and tourism policies and objectives as set out in the *Galway County Development Plan* and any Economic Strategy prepared by Galway County Council.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development or other activities associated with economic development and increased tourism may impact on air, water or habitat quality or on protected species.
Objective ED 2 – Business/Enterprise Development Facilitate and encourage the establishment of business/enterprise, technology and industry uses, which are considered compatible with surrounding uses, on suitably zoned sites. Where such uses are developed adjacent to residential areas and community facilities, suitable buffer zones shall be provided as well as adequate screening in the form of planting and landscaping, as appropriate. The Business and	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in	Development or other activities associated with business and enterprise development may impact on air, water or habitat quality or on protected

Enterprise (BE) zoning will be the primary focus for such uses, subject to the guidance provided in ***DM Guideline LU2 – Land Use Zoning Matrix.***	surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species	species.
Objective ED 3 – Retail Development Support the development of appropriate types, scales and patterns of retail development in suitable locations within the village and with high quality designs that: • Comply with the *Guidelines for Planning Authorities Retail Planning 2012* (and any updated/superseding document), including the need for a sequential approach to retail development, the policies and objectives of any future Retail Strategy for Galway that may be adopted within the lifetime of this Local Area Plan and the guidance set out in the *Retail Design Manual – A Good Practice Guide Companion Document to the Guidelines for Planning Authorities Retail Planning* (2012*).* • Support the vitality and viability of the existing village centre and associated main streets and ensure new development does not undermine their vitality and viability. • Protect investment in strategic roads and infrastructure and that are easily accessible, particularly in terms of public transport. • Contribute to the creation of a high quality retail environment. The Village Centre (C1) zoning will remain the primary focus for the location of new retail development. The Planning Authority will ensure that the location of future retail development is consistent with the key policy principles and order of priority as set out in the *Guidelines for Planning Authorities Retail Planning 2012* (and any updated/superseding document) and will require Retail Impact Assessments, including details of the sequential approach, Design Statements and Transport Impact Assessments where appropriate, for retail developments in accordance with the Retail Planning Guidelines and DM Guideline ED1 and ED2.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development or other activities associated with retail development may impact on air, water or habitat quality or on protected species.
Objective ED 5 – New Retail Area/Mart Road **(& Refer to Map 2 - *Specific Objectives)*** Support the co-ordinated expansion of the village centre southwards from the main street, High Street, towards the Mart Road and require the preparation of an Action Area Plan for the sensitive and appropriate development of this area. The Action Area Plan and any development within this quarter shall demonstrate the following: • How adequate provision of public carparking facilities in the vicinity of the village centre have been addressed **(Please also refer to Objective TI 14)**. • A co-ordinated vehicular access arrangement, which shall be in consultation with the Road Design Section of Galway County Council. • Maintain vehicular access to this area at the junction of the Mart Road and the Demesne Road and also between the southern side of Main Street and this area as indicated on Map 2- Specific Objectives.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.

(Refer also to Objective TI 15). • Provide footpath and cycling links to the village centre. • Buildings shall be of a high quality design and materials, particularly along the road edge providing enclosure and strong frontage. • Provision of appropriate landscaping and usable public spaces. • Screened car parking.		
Objective ED 6 – New Business and Enterprise Quarter Require the preparation of an Action Area Plan for the sensitive and appropriate development of the business and enterprise zoned lands to the south east of the plan area (east of N84). The Action Area Plan and any development within this quarter shall demonstrate the following: • Co-ordinated access arrangements, in consultation and agreement with the Road Design Section of Galway County Council, preferably from the Mart Road or existing access serving the pitch and putt/Headford Community Gardens. (Refer to **Section 3.5.2** of this Local Area Plan). • Provision of footpath and cycling facility link to the village centre. • Buildings shall be of a high quality design and materials, particularly along the road edge providing enclosure and strong frontage. • Provide appropriate landscaping and usable public spaces. • Screened car parking. **(Refer to Map 2** – ***Specific Objectives)***	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species.
Objective ED 7 – Tourism Development Encourage and assist the development of the sustainable tourism potential within Headford in a manner that respects, builds on, protects and enhances the cultural, built, architectural, archaeological and heritage significance of the village including natural heritage and biodiverstiy and its local amenities.	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development or other activities in the provision of tourism services may have a negative impact on air or water quality or cause disturbance to protected habitats and species Objective does seek to safeguard the heritage significance.
Objective ST 1 – Integrated Land Use and Transport Ensure that land use planning is integrated with transportation planning and reduce the need to travel, particularly by private transport, by: • Promoting the consolidation of development; • Encouraging intensification and mixed use development along public transport corridors and at public transport hubs and nodes; • Prioritising walking, cycling and public transport within new development proposals, as appropriate;	Development and operational phases: Increased population – light, noise, traffic, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance from increased recreational pressure in surrounding landscape. Increased wastewater. Increase in hard	The objective overall is to reduce vehicular traffic and improve environmental quality. Development associated with transport infrastructure may impact on air, water or

• Ensuring that land use and zoning are fully integrated with the provision and development of a comprehensive, sustainable, efficient, high quality transportation network that accommodates the movement needs of residents, businesses and visitors.	landscaping and runoff water. Introduction of invasive plant or animal species.	habitat quality or cause disturbance to protected habitats or species.
Objective ST 2 – Sustainable Transportation Facilitate any Smarter Travel initiatives that will improve sustainable transportation within the Plan Area and facilitate sustainable transportation options including public transportation, rail freight, electric vehicles, car clubs, public bike schemes, as appropriate.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The objective overall is to reduce vehicular traffic and improve environmental quality. Development associated with transport infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective ST 3 – Walking Facilitate the improvement of the pedestrian environment and network so that it is safe and accessible to all, through the provision of the necessary infrastructure such as footpaths, lighting, pedestrian crossings etc. New development shall promote and prioritise walking, shall be permeable, adequately linked and connected to neighbouring areas, the village centre, recreational, educational, residential and employment destinations and shall adhere to the principles contained within the national policy document *Smarter Travel A Sustainable Transport Future 2009-2020* and the *Design Manual for Urban Roads & Streets (2013), (*as updated) or with any associated guidance documents.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The objective overall is to reduce vehicular traffic and improve environmental quality. Development associated with walking infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective ST 4 – Cycling Facilitate the improvement of the cycling environment/network so that it is safe and accessible, through the provision of the necessary infrastructure, such as surface treatment, junction treatment, cycle track(s), cycle lane(s), lighting, road crossings etc. New development shall promote and prioritise cycling, shall be permeable, adequately linked and connected to neighbouring areas, the village centre, recreational, educational, residential and employment destinations and shall adhere to the principles contained within the national policy document *Smarter Travel A Sustainable Transport Future 2009-2020,* the *National Cycle Policy Framework,* and the *Design Manual for Urban Roads & Streets (2013)* documents or updated/amended guidance documents.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The objective overall is to reduce vehicular traffic and improve environmental quality. Development associated with cycling infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective TI 3 –Transport Network Facilitate improvements to the existing transportation network and the implementation of	Development and operational phases: Increased traffic and associated– light,	Development associated with transport infrastructure

traffic management measures, subject to normal planning and environmental considerations.	noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective TI 4– Road Schemes/Road Improvements Support the development of appropriately approved schemes/road improvements in and around the plan area.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development associated with Road schemes or improvements may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective TI 11 – Mart Road & Demesne Road Intersection Upgrade Seek to redesign the intersection of the Mart Road and the Demesne Road junction. **(Refer to Map 2-*Specific Objectives*)**	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development associated with Road schemes or improvements may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective TI 12 – Mart Road & Local Roads Upgrade Facilitate the upgrade of the Mart Road and the local roads L-61281 and L-6128 (Demesne Road) within the plan boundary. Any upgrade shall facilitate public lighting, pedestrian and cycling facilities and shall have regard to the *Design Manual for Urban Roads and Streets* (2013). **(Refer to Map 2-*Specific Objectives*)**	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal	Development associated with Road schemes or improvements may impact on air, water or habitat quality or cause disturbance to protected habitats or species.

	species.	
Objective TI 14 – Car Park **(Refer to Map 2-*Specific Objectives*)** Facilitate the development of public car parking facilities in the village and as indicated on **Map 2** - ***Specific Objectives*.**	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development associated with car parks may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective TI 15 – Access to Backlands **(& Refer to Map 2 - *Specific Objectives*)** Reserve access points for future development and for the development and access to backlands including those identified on **Map 2 - *Specific Objectives*** and any other access points that may be identified for reservation by the Planning Authority during the plan period, so as to ensure adequate vehicular, pedestrian and cycle access to backlands, in order to facilitate efficient development of these lands and to ensure connectivity and accessibility to lands with limited road frontage.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Any development on undeveloped zoned land has the potential to impact on air, water and habitat quality on to disturb protected species.
Objective TI 16 – Link Road **(& Refer to Map 2 - *Specific Objectives*)** **a)** Ensure the provision of a northern link road (including pedestrian and cycling facilities) between the R334 and St. George's Square to facilitate access to residential lands located between these two roads. Any link road shall take account of the *Design Manual for Urban Roads & Streets* (2013). **b)** Seek to provide a southern link to New Street from the proposed northern link road (under part A of this Objective TI 16) and reserve an access for same. Any link road shall take account of the *Design Manual for Urban Roads & Streets* (2013).	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	Development associated with transport infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Objective TI 17 – Junction Upgrade **(& Refer to Map 2 - *Specific Objectives*)** Seek to upgrade the junction of the L-61301 and the N84.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance	Development associated with transport infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species.

	from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	
Objective TI 19 – Footpath, Public Lighting & Cycle Provision **a)** Ensure the provision of footpaths & public lighting from the existing residential development along the L-6128-1 (Demesne Road) to the village centre and the R334 (Regional Road) to the village centre. Cycling facilities shall also be provided in these locations where feasible. **b)** Facilitate traffic calming measures along the Demesne Road (L-6128-1). **(& Refer to Map 2 - *Specific Objectives*)**	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The objective overall is to reduce vehicular traffic and improve environmental quality. Development associated with transport infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species.
Policy UI 1 – Water Supply, Wastewater And Surface Water Infrastructure Support Irish Water in the provision and maintenance of adequate wastewater disposal, water supply and surface water drainage infrastructure, in accordance with EU Directives, to service the development of Headford. This will include satisfactory capacity for public wastewater and storm-water sewers as appropriate, a satisfactory quantity and quality of water supply and the promotion of Sustainable Drainage System approaches and techniques within the plan area.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species. Changes in hydrological regime.	The provision and maintenance of wasterwater disposal and water supply has the potential to impact on water and habitat quality and dependant species. This policy does seek to safeguard the environment and biodiversity by ensuring satisfactory capacity for wastewater and by promoting SuDS.
Policy UI 2 – Irish Water's Capital Investment Plan & Water Services Strategic Plan Support Irish Water in the implementation of their Capital Investment Plan 2014-2016 (and as updated/superseded) and their Water Services Strategic Plan, once in place.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species. Changes in hydrological	The provision and maintenance of wasterwater disposal and water supply has the potential to impact on water and habitat quality and dependant species.

	regime.	
Objective UI 1 – Irish Water & Water and Wastewater Projects Support Irish Water in identifying, prioritising and progressing the implementation of water and wastewater projects in the Headford plan area, as appropriate.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species. Changes in hydrological regime.	The provision and maintenance of waste water disposal and water supply has the potential to impact on water and habitat quality and dependant species.
Objective UI 2 – Water Supply & Water Conservation Ensure that new developments are adequately serviced with a suitable quantity and quality of drinking water supply, promote water conservation to reduce the overall level of water loss in the public supply and require that new domestic developments provide for water supply metering.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species. Changes in hydrological regime.	The provision and maintenance of wasterwater disposal and water supply has the potential to impact on water and habitat quality and dependant species. Promotion of water conservation would help safeguard biodiversity.
Objective WM 2 – Bring Bank Facility Facilitate the installation of bring bank(s) at suitable locations within the plan area, which do not adversely affect residential amenity or environmental quality.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species. Litter and vermin.	Bring bank facilities may have a localised impact on water and habitat quality and cause disturbance to protected species. There is a caveat that bring banks will be sited where they do not adversely affect environmental quality.
Policy EC 1 – Energy and Communications It is the policy of Galway County Council to support the provision of adequate energy and communications infrastructure to service developments including gas, electricity, broadband, and telephone services. In particular, the Council supports the increased	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint,	The provision of energy and communications infrastructure may have an impact on air, water and

use of renewable energy and the aims of sustainable energy use and conservation in building design and construction.	oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	habitat quality or cause disturbance to protected species.
Objective EC 1 – Broadband & Telecommunications Facilitate the provision of adequate telecommunication infrastructure within the plan area, including telephone and broadband services, to the requirements of the relevant service providers and in accordance with the principles of proper planning and sustainable development.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The provision of telecommunications infrastructure may have an impact on air, water and habitat quality or cause disturbance to protected species.
Objective EC 2– Gas & Electricity Supply Facilitate the provision of an adequate supply of electricity and gas to developments in the Plan Area, to the requirements of the relevant service provider, and in accordance with the principles of proper planning and sustainable development.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The provision of gas and electricity infrastructure may have an impact on air, water and habitat quality or cause disturbance to protected species.
Objective EC 4 – Renewable Energy Promote and facilitate the development of renewable sources of energy within the plan area and encourage the integration of micro-renewable energy sources into the design and construction of new developments, as appropriate.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	The development of renewable energy may have an impact on air, water and habitat quality or cause disturbance to protected species.
Objective UD 4 – Green Network and Landscaping		

Support the development of a network of amenities, open spaces and natural areas that support biodiversity, that incorporate existing landscape features such as local rivers, streams, trees, stone walls and hedgerows, that provide pedestrian and cycling linkages and active and passive recreation opportunities, that help to structure and provide relief from the built environment and that can provide areas for surface water attenuation and flood risk management.	Development and operational phases: Increased traffic and associated– light, noise, air emissions. Pollution from use or storage of hazardous materials (paint, oil, pesticides). Disturbance to species from traffic or construction. Disturbance from increased recreational pressure in surrounding landscape. Increase in hard landscaping and runoff water. Introduction of invasive plant or animal species.	*This action aims to support biodiversity and natural heritage features. Increased amenity use of natural areas has the potential to impact on habitat quality and disturb protected species.

Outlined in Table 4.2 are a number of policies and objectives within the draft LAP which negate potential adverse impacts on European Natura 2000 sites and their qualifying interests.

Table 4.2 Policies and Objectives with Headford LAP which Reduce the Potential for Adverse Impacts to Natura 2000 Sites

Objective DS 3 – Natura 2000 Network and Habitats Directive Assessment Protect European sites that form part of the Natura 2000 network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU *Habitats Directive (92/43/EEC)*, EU *Birds Directive (2009/147/EC)*, the *Planning and Development (Amendment) Act 2010*, the *European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011)* (and any subsequent amendments or updated legislation) and having due regard to the guidance in the *Appropriate Assessment Guidelines 2010* (and any updated/superseding guidance). A plan or project (e.g. proposed development) within the Plan Area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific evidence and a Habitats Directive Assessment where necessary, that: 1. The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 site (either individually or in combination with other plans or projects); or 2. The plan or project will adversely affect the integrity of any Natura 2000 site (that does not host a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or 3. The plan or project will adversely affect the integrity of any Natura 2000 site (that hosts a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all	As competent Authority, GCC will implement Article 6 of the Habitats directive and ensure all plans, activities and developments which they authorise within the plan area and in the surrounding area fully comply with the requirements for AA screening or assessment as required. This would ensure no significant impacts on Natura sites.

compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.	
Objective DS 5 – Service Led Development Development under the plan shall be preceded by sufficient capacity in the public waste water infrastructure and potable water infrastructure.	Sufficient waste water infrastructure is critical to protecting Natura 2000 sites from pollution from waste water.
Objective DS 7 – Flood Risk Management and Assessment Ensure that proposals for new developments located within identified or potential flood risk areas, or which may exacerbate the risk of flooding elsewhere, are assessed in accordance with the provisions of *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) (or as updated) & Departmental Circular PL2/2014 and the relevant policies and objectives of this plan. **(Refer to Map 3 – Flood Risk Management)**	Abiding by principles of best practice in relation to flood risk management provides a safeguard for biodiversity.
Objective DS 8 – Climate Change & Adaptation Galway County Council shall support the National Climate Change Strategy and follow on document *National Climate Change Adaptation Framework Building Resilience to Climate Change 2012* (or any updated/superseding document) including the transition to a low carbon future, taking account of flood risk, soil erosion, the promotion of sustainable transport, improved air quality, the importance of green infrastructure, the use of renewable resources and the reuse of existing resources.	Abiding by principles of best practice in relation to climate change provides a safeguard for biodiversity.
Objective LU 5 – Open Spaces/Recreation & Amenity (OS) Promote the sustainable management, use and/or development, as appropriate, of the OS lands. This will include the: a) Development of open spaces and recreational activities, in accordance with best practice and on suitable lands with adequate access to the local community and retain existing open space and recreational facilities, unless it can be clearly demonstrated to the satisfaction of Galway County Council that these uses are no longer required by the community; b) Appropriate management and use of any flood risk areas within the OS zone to avoid, reduce and/or mitigate, as appropriate, the risk and potential impact of flooding; c) Appropriate management and use of any areas of high biodiversity value.	*Also in impact table as any development on undeveloped zoned land has the potential to adversely impact air and water quality and mobile species. Objectives to abide by principles of proper management and sustainable development in place to safeguard biodiversity.
Objective LU 8 – Constrained Land Use Zone (CLU) To facilitate the appropriate management and sustainable use of flood risk areas. This zoning limits new development, while recognising that existing development uses within these zones may require small scale development, as outlined below, over the life of the Local Area Plan, which would contribute towards the compact and sustainable urban development of the village. The underlying zoning or the existing permitted uses are deemed to be acceptable in principle for minor developments to existing buildings (such as small extensions to houses, most changes of use of existing buildings), which are unlikely to raise significant flooding issues, provided they do not obstruct important flow	Abiding by principles of best practice in relation to land use management in flood risk areas provides a safeguard for biodiversity.

paths, introduce a significant additional number of people into flood risk areas or entail the storage of hazardous substances. Development proposals within this zone shall be accompanied by a detailed Flood Risk Assessment, carried out in accordance with *The Planning System and Flood Risk Assessment Guidelines & Circular PL 2/2014* (or as updated), which shall assess the risks of flooding associated with the proposed development. Proposals shall only be considered where it is demonstrated to the satisfaction of the Planning Authority that they would not have adverse impacts or impede access to a watercourse, floodplain or flood protection and management facilities, or increase the risk of flooding to other locations. The nature and design of structural and non- structural flood risk management measures required for development in such areas will also be required to be demonstrated, so as to ensure that flood hazard and risk will not be increased. Measures proposed shall follow best practice in the management of health and safety for users and residents of the development. Specifications for developments in flood vulnerable areas set out in this Plan shall be complied with as appropriate**.** **(Please also refer to Objective FL3 & DM Guideline FL 2)**	
Objective LU 9 – Flood Risk Areas and Land Use Zones **(Refer to Map 1A/1B and Map 3)** Ensure that any proposed development that may be compatible with the land use zoning objectives/matrix but which includes a use that is not appropriate to the Flood Zone (as indicated on ***Map 3 – Flood Risk Management***) and/or that may be vulnerable to flooding is subject to flood risk assessment, in accordance with *The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009* and the Departmental Circular *Pl 2/2014* (or as updated within the lifetime of this plan) and the policies and objectives of this Plan.	Abiding by principles of best practice in relation to land use management in flood risk areas provides a safeguard for biodiversity.
Objective LUD 1– Development Densities Ensure that the density of new development is appropriate to the land use zone and site context, is in keeping with the development pattern of the area, does not unduly impact on the amenities of the area and that it results in a positive relationship between existing developments and any adjoining public spaces. The development of higher density development shall be promoted in appropriate locations, such as suitable sites within the village centre and adjacent to public transport facilities, where such development is compatible with the built & natural heritage, urban design objectives, infrastructure capacity and environmental considerations. The density of developments will generally be in accordance with the guidance set out under DM Guideline LU1, although the Planning Authority may consider higher density developments where this is deemed appropriate to secure the urban design or other objectives of the plan.	Abiding by principles of proper planning compatible with natural heritage and environmental considerations provides a safeguard for biodiversity.
Objective LUD 2 – Residential Densities Promote a range of residential densities within the plan area appropriate to the prevailing development pattern, supporting infrastructure, urban character and heritage resources in accordance with the guidance in '*Sustainable Residential Development in Urban Areas Guidelines 2009'* (or as updated within the lifetime of this plan). Higher residential densities should be encouraged at locations where it is appropriate to the existing context and density of the plan area, for example around the village centre and within convenient walking	Abiding by principles proper planning and sustainable development provides a safeguard for biodiversity.

distance of public transport facilities, and where it will not unduly impact on built or natural heritage or impact adversely on the integrity of Natura 2000 sites. The density of residential developments will generally be in accordance with the guidance set out under DM Guideline LU1, although the Planning Authority may consider higher residential densities where this is considered appropriate to the context and necessary to secure the urban design or other objectives of the Plan. Development will only be permitted where there is capacity and/or adequate services can be made available.	
Policy RD 1 – Residential Development It is the policy of Galway County Council to support the creation of sustainable communities and high quality, well connected and accessible residential areas at appropriate locations, with a range of housing options and adequate support services, facilities and amenities, having regard to the guidance contained in the following policy/guidance documents or any updated/amended versions: • Galway County Council's Housing Strategy • *Sustainable Residential Developments in Urban Areas: Guidelines for Planning Authorities,2009.* • *Urban Design Manual: A Best Practice Guide – A Companion Document to the Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas*, 2009. • *Design Manual for Urban Roads & Streets (DMURS) 2013* • Galway Clustered Housing Guidelines, where appropriate, in the assessment of any proposals of new multiple unit housing developments within the Headford Local Area Plan area. • Galway County Council's *Traveller Accommodation Programme*. • *Smarter Travel a Sustainable Transport Future - A New Transport Policy for Ireland 2009-2020* including the *National Cycle Policy Framework 2009-2022* and any other related national documents. • Water Framework Directive and *The Planning System and Flood Risk Management, Guidelines for Planning Authorities 2009.*	Abiding by principles proper planning and sustainable development provides a safeguard for biodiversity.
Policy RD 2 – Phased Development on Residential Zoned Lands It is the policy of Galway County Council to encourage orderly, sequential and phased residential development in accordance with the Preferred Development Strategy and the land use management and zoning provisions set out in this Local Area Plan. This shall include a positive presumption in favour of the sequential development of suitably serviced R - Residential (Phase 1) lands in order to align the Local Area Plan with the Core Strategy/Settlement Strategy in the current Galway County Development Plan, subject to compliance with the policies and objectives in this Local Area Plan and the principles of proper planning and sustainable development. There will be a general presumption against residential development on lands zoned R - Residential (Phase 2) within the lifetime of the Local Area Plan, subject to the exceptions provided for under the Residential Development Objective RD1.	*Also included in table 4.1 as any development on undeveloped zoned land has the potential to adversely impact air, water and habitat quality or cause disturbance to protected mobile species. The phased approach and objectives to abide by principles of proper planning and sustainable development provides a safeguard biodiversity.
Objective RD1 – Phased Residential Development (Refer to Map 1A/1B - Land Use Zoning) Support the development of lands designated as R - Residential (Phase 1) within the lifetime of the Local Area Plan, subject to normal planning, environmental, access and servicing requirements, and reserve the lands designated as R - Residential (Phase 2) for the longer term growth needs of the town. R - Residential (Phase 2)	*Also included in table 4.1 as any development on undeveloped zoned land has the potential to adversely impact air, water and habitat quality or cause

lands are generally not developable within the lifetime of this Plan, with the exception of the following developments, which may be considered by the Planning Authority within the lifetime of this Local Area Plan subject to a suitable case being made for the proposal: 1. Single house developments for family members on family owned lands. 2. Non-residential developments that are appropriate to the site context, any existing residential amenity and the existing pattern of development in the area. 3. Where it is apparent that R - Residential (Phase 1) lands cannot or will not be developed within the plan period, residential development may be considered in a phased manner on some R- Residential (Phase 2) lands. Development on Residential-Phase 2 lands will normally only be considered where 50% of the lands in Residential-Phase 1 are committed to development. The above exceptions will be subject to compliance with the Core Strategy in the Galway County Development Plan, the policies and objectives in this Local Area Plan, the principles of proper planning and sustainable development and to meeting normal planning, environmental, access and servicing requirements. Developments will only be permitted where a substantiated case has been made to the satisfaction of the Planning Authority and the development will not prejudice the future use of the lands for the longer term growth needs of the town.	disturbance to protected mobile species. The phased approach and objectives to abide by principles of proper planning and sustainable development would safeguard biodiversity.
Objective RD 10 – Connectivity Between Phased Residential Lands Ensure that development proposals for the R-Residential (Phase 1) lands consider and provide for both vehicular, pedestrian and cycle access, as appropriate to adjoining R–Residential (Phase 2) lands. Provision should also be made in development proposals for green space linkages between both the R-Residential (Phase 1) lands and the R-Residential (Phase 2) lands in this area **& refer to Map 2-Specific Objectives.**	Green space linkages important as a habitat, for foraging and to facilitate movement of protected species.
Objective RD 12 – Natural Features & Natural Stone Walls (& Refer to Map 2-Specific Objectives) Developers shall be required to carry out a professional assessment of the natural features and stone walls that define the character of site in the context of its surrounding environment (including topography, aspect, habitats, flora fauna, foliage, geological features) and integrate these features into development proposals.	Preservation of natural features and stone walls important as habitat, foraging and to facilitate movement of protected species.
Policy ST 1 – Sustainable Transport, Walking and Cycling It is the policy of Galway County Council to promote the use of public transport, walking and cycling as safe, convenient and environmentally sustainable alternatives to private transport and to implement the key goals, policy guidance and relevant actions set out in the Department of Transport's policy document *Smarter Travel: A Sustainable Transport Future – A New Transport Policy for Ireland 2009-2020* (and any subsequent amendments or updates) and to any Smarter Travel Plan(s) adopted by Galway County Council.	Supporting sustainable transport and walking/cycling to reduce vehicular traffic provides a safeguard for biodiversity.
Objective ST 2 – Sustainable Transportation Facilitate any Smarter Travel initiatives that will improve sustainable transportation within the Plan Area and facilitate sustainable transportation options including public transportation, rail freight, electric vehicles, car clubs, public bike schemes, as appropriate.	The objective overall is to reduce vehicular traffic and improve environmental quality. *Also included in table 4.1 as development associated with transport infrastructure may impact on air, water or habitat quality or cause disturbance to

	protected habitats or species
Objective ST 3 – Walking Facilitate the improvement of the pedestrian environment and network so that it is safe and accessible to all, through the provision of the necessary infrastructure such as footpaths, lighting, pedestrian crossings etc. New development shall promote and prioritise walking, shall be permeable, adequately linked and connected to neighbouring areas, the village centre, recreational, educational, residential and employment destinations and shall adhere to the principles contained within the national policy document *Smarter Travel A Sustainable Transport Future 2009-2020* and the *Design Manual for Urban Roads & Streets (2013), (*as updated) or with any associated guidance documents.	The objective overall is to reduce vehicular traffic and improve environmental quality. *Also included in table 4.1 as development associated with transport infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species
Objective ST 4 – Cycling Facilitate the improvement of the cycling environment/network so that it is safe and accessible, through the provision of the necessary infrastructure, such as surface treatment, junction treatment, cycle track(s), cycle lane(s), lighting, road crossings etc. New development shall promote and prioritise cycling, shall be permeable, adequately linked and connected to neighbouring areas, the village centre, recreational, educational, residential and employment destinations and shall adhere to the principles contained within the national policy document *Smarter Travel A Sustainable Transport Future 2009-2020,* the *National Cycle Policy Framework,* and the *Design Manual for Urban Roads & Streets (2013)* documents or updated/amended guidance documents.	The objective overall is to reduce vehicular traffic and improve environmental quality. *Also included in table 4.1 as development associated with transport infrastructure may impact on air, water or habitat quality or cause disturbance to protected habitats or species
Objective TI 7 – Noise Require all new proposed development, which is considered to be noise sensitive within 300m of existing, new or planned national roads, or roadways with traffic volumes greater than 8,200AADT, to include a noise assessment and mitigation measures, if necessary with their planning application documentation. The cost of mitigation measures shall be borne by the developer. Mitigation measures in order to protect the noise environment of existing residential development will be facilitated or enforced as necessary.	The control of noise levels will help reduce impacts on protected species
Policy UI 1 – Water Supply, Wastewater And Surface Water Infrastructure Support Irish Water in the provision and maintenance of adequate wastewater disposal, water supply and surface water drainage infrastructure, in accordance with EU Directives, to service the development of Headford. This will include satisfactory capacity for public wastewater and storm-water sewers as appropriate, a satisfactory quantity and quality of water supply and the promotion of Sustainable Drainage System approaches and techniques within the plan area.	The proper treatment of wastewater and management of water supply will improve water and habitat quality.
Objective UI 3 – Wastewater Disposal. New developments shall only be permitted where it can be clearly demonstrated that they can be serviced and that there is adequate capacity in the wastewater disposal infrastructure in accordance with applicable requirements and standards, including urban wastewater treatment disposal standards, in order to protect Lough Corrib cSAC and SPA and its respective qualifying interests.	The proper treatment of wastewater and management of water supply will improve water and habitat quality.
Objective UI 4 – Connections to the Public Sewer & Public Water Mains Development shall connect to the public sewer and public water mains, in order to protect all waters in the plan	The proper treatment of wastewater and management of water supply will improve

area, and also to consolidate the urban structure and to control ribbon development along approach roads into Headford.	water and habitat quality.
Objective UI 5 – Surface Water Drainage and Sustainable Drainage Systems Maintain, and enhance as appropriate, the existing surface water drainage system throughout the plan area and ensure that new developments are adequately serviced with surface water drainage infrastructure and promote the use of Sustainable Drainage Systems in new developments. Surface water runoff from development sites will be limited to pre-development levels and planning applications for new developments will be required to provide details of surface water drainage and Sustainable Drainage Systems proposals	The implementation of SuDS will improve water and habitat quality.
Policy WQ 1 – Water Quality It is the policy of Galway County Council to seek the protection and improvement in water quality in all waters, in conjunction with other agencies and stakeholders in accordance with the EU Water Framework Directive (2006/60/EC), EU Groundwater Directive (2006/118/EC) and other relevant EU Directives, including associated national legislation and policy guidance, (including any superseding versions of same), and to support the implementation of the Western River Basin District Management Plan (as updated),including its Programme of Measures and the actions and measures that form part of the Corrib Water Management Unit Action Plan and consider the above when assessing new development proposals.	Abiding by the WFD, relevant EU legislation and working in co-operation with other stakeholders and agencies to implement fully the WRBD management plan will improve water and habitat quality in the catchment.
Objective WQ 1 – Western River Basin District Management Plan and Protection of Waters Support the implementation of the relevant recommendations and measures as outlined in the Western River Basin Management Plan 2009-2015 (or any other plan that may supersede same during the lifetime of this Local Area Plan). Development shall only be permitted where it can be clearly demonstrated that the proposal would not have an unacceptable impact on the water environment, including surface water, groundwater quality and quantity, river corridors and associated wetlands.	Abiding by the WFD, relevant EU legislation and working in co-operation with other stakeholders and agencies to implement fully the WRBD management plan will improve water and habitat quality in the catchment.
Objective WQ 2 – Groundwater & Aquifer Support the protection of groundwater resources and dependent wildlife/habitats in accordance with the *Groundwater Directive 2006/118/EC* and the *European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010)* as amended by the *European Communities Environmental Objectives (Groundwater) (Amendment) Regulations 2012* or any other updates. In addition, protect the regionally important aquifer that underlays the plan area from risk of environmental pollution and have regard to any groundwater protection schemes and groundwater source protection zones where data has been made available by the Geological Survey of Ireland.	Abiding by the WFD, relevant EU legislation and working in co-operation with other stakeholders and agencies to implement fully the WRBD management plan will improve water and habitat quality in the catchment.
Policy ENV 1 – Climate Change Policy It is the policy of Galway County Council to support EU and national legislation and strategies on climate change in its decision making in order to contribute to a reduction and avoidance of human induced climate change and to assist in achieving the national targets set out under the Kyoto Protocol (as updated).	Abiding by legislation and principles of best practice in relation to climate change provides a safeguard for biodiversity.
Objective ENV 2 – Climate Change & Green Infrastructure Galway County Council shall promote the integration of green infrastructure/networks (e.g. interconnected network of green spaces including aquatic ecosystems) and other physical features on land) into new development proposals in order to mitigate and adapt to climate change.	Green infrastructure abiding by principles of best practice in relation to climate change provides a safeguard for biodiversity.

Objective ENV 3 – Air Quality Promote the preservation of best ambient air quality compatible with sustainable development throughout the plan area by seeking to protect and maintain the regulatory standards contained with the EPA's *Air Quality in Ireland 2012 Key Indicators of Ambient Air Quality* (or any superseding document) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as set out in statutory regulations, namely *SI 180/2011* ***Air Quality Standards Regulations 2011.***	Abiding by regulatory standards and best practice in relation to emissions and air quality control provides a safeguard for biodiversity.
Objective ENV 4 – Air Purification Encourage landscaping and deciduous tree planting in an environmentally sensitive manner within the plan area as a means of air purification, the filtering of suspended particles and the improvement of Headford's micro-climate.	Suitable tree planting can help enhance air quality and provide habitat and foraging area for protected species such as bats.
Policy FL 1 – Flood Risk Management It is the policy of Galway County Council to support, in co-operation with the OPW, the implementation of the EU Flood Risk Directive (2007/60/EC), the Flood Risk Regulations (SI No. 122 of 2010) and the DoEHLG/OPW publication *The Planning System and Flood Risk Management Guidelines for Planning Authorities* 2009 (or any updated/superseding legislation or policy guidance). Galway County Council will also take account of the OPW Catchment Flood Risk Management Plans (CFRAMs) as appropriate, the Preliminary Flood Risk Assessment (PFRA), the Strategic Flood Risk Assessment for County Galway 2012 and the Strategic Flood Risk Assessment carried out for Headford and any recommendations and outputs arising from same that relate to or impact on the plan area.	Abiding by legislation and principles of best practice in relation to flood risk management provides a safeguard for biodiversity.
Objective FL 1 – Flood Risk Management and Assessment Ensure the implementation of the DoEHLG/OPW publication *The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009,* including the Department of the Environment, Heritage & Local Government's *Circular PL 2/2014* (or any updated/superseding document) in relation to flood risk management within the Plan Area. This will include the following: 1. Avoid, reduce and/or mitigate, as appropriate in accordance with *The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009* (and as updated), the risk of flooding within the flood risk areas indicated on **Map 3 –** ***Flood Risk Management***, including fluvial, pluvial and groundwater flooding, and any other flood risk areas that may be identified during the period of the plan or in relation to a planning application. 2. Development proposals in areas where there is an identified or potential risk of flooding or that could give rise to a risk of flooding elsewhere may be required to carry out a Site-Specific Flood Risk Assessment, and justification test where appropriate, in accordance with the provisions of *The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009*, (or any superseding document). Any flood risk assessment should include an assessment of the potential impacts of climate change, such as an increase in the extent or probability of flooding, and any associated measures necessary to address these impacts.	Abiding by legislation and principles of best practice in relation to flood risk management provides a safeguard for biodiversity and specifically to protect Natura sites.

3. Development that would be subject to an inappropriate risk of flooding or that would cause or exacerbate such a risk at other locations shall not normally be permitted. 4. Where certain measures proposed to mitigate or manage the risk of flooding associated with new developments are likely to result in significant effects to the environment or Natura 2000 sites, such measures will undergo environmental assessment and Habitats Directive Assessment, as appropriate.	
Objective FL 2 – Flood Zones and Appropriate Land Uses Protect Flood Zone A and Flood Zone B from inappropriate development and direct developments/land uses into the appropriate Flood Zone in accordance with *The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009 (or any superseding document)* and the guidance contained in **DM Guidance FL 1- Flood Zones and Appropriate Land Uses**. Where a development/land use is proposed that is inappropriate within the Flood Zone, then the development proposal will need to be accompanied by a Development Management Justification Test and Site-Specific Flood Risk Assessment in accordance with the criteria set out under with *The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009 & Circular PL2/2014 (as updated/superseded).* In Flood Zone C, (Please also refer to **DM Guidelines FL1**) where the probability of flooding is low (less than 0.1%, Flood Zone C), the developer should satisfy him or herself that the probability of flooding is appropriate to the development being proposed. **(Refer to Map 3 - *Flood Risk Management*)**	Abiding by legislation and principles of best practice in relation to flood risk management provides a safeguard for biodiversity.
Objective FL 3 – Structural and Non-Structural Risk Management Measures in Flood Vulnerable Zones Ensure that applications to existing developments in flood vulnerable zones shall provide details of structural and non-structural risk management measures to include, but not be limited to specifications of the following - floor levels, internal layout, flood resilient construction, flood resistant construction, emergency response planning, access and egress during flood events. **(Please Refer to Objective LU 8 & DM Guideline FL 2)**	Abiding by legislation and principles of best practice in relation to flood risk management provides a safeguard for biodiversity.
Objective FL 4 – Flood Risk Assessment for Planning Applications and CFRAMS Ensure that site specific Flood Risk Assessment (FRA) accompany all planning applications in Flood Zones A and B, even for developments appropriate to the particular Flood Zone. The detail of the site specific FRAs will depend on the level of risk and scale of development. A detailed site specific FRA should quantify the risks and effects of selected mitigation and the management of residual risks. Galway County Council shall have regard to the results of the CFRAMS in the assessment of planning applications.	Abiding by legislation and principles of best practice in relation to flood risk management provides a safeguard for biodiversity.
Objective FL 5 – Strategic Flood Risk Assessment and Flood Risk Assessments Ensure that Strategic Flood Risk Assessments and site specific Flood Risk Assessments consider and provide information on the implications of climate change with regard to flood risk in relevant locations. The 2009 OPW Draft Guidance on Assessment of Potential Future Scenarios for Flood Risk Management (or any superseding document) shall be consulted with to this effect.	Abiding by legislation and principles of best practice in relation to flood risk management provides a safeguard for biodiversity.
Objective FL 6 – Environmental Impact Assessment/Statement (EIA/EIS) & Flood Risk Assessment Flood risk may constitute a significant environmental effect of a development proposal that in certain	Abiding by legislation and principles of best practice in relation to flood risk

circumstances may trigger a sub-threshold EIS, therefore Galway County Council shall ensure that Flood Risk Assessment would form an integral part of any EIA undertaken for projects within the village.	management provides a safeguard for biodiversity.
Objective FL 7 – Pluvial and Groundwater Flood Risk Planning applications on lands identified within pluvial and/or groundwater flood risk shall be accompanied by a Site Specific Flood Risk Assessment that corresponds with that outlined under Chapter 5 'Flooding and Development Management' of *The Planning System and the Flood Risk Management Guidelines for Planning Authorities* (2009) (or any updates to same). Such assessments shall be prepared by suitably qualified experts with hydrological experience and shall quantify the risks and the effects of any necessary mitigation, together with the measures needed or proposed to manage residual risks.	Abiding by legislation and principles of best practice in relation to pluvial and groundwater flood risk management provides a safeguard for biodiversity.
Objective FL 9 – Water Bodies and Watercourses Protect water bodies and watercourses within the plan area from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include a general 10 metre protection buffer from rivers within the plan area, as measured from the near river bank (this distance may be increased and decreased on a site by site basis, as appropriate). In addition, promote the sustainable management and uses of water bodies and avoid culverting or realignment of these features. **(Refer to Map 2 - *Specific Objectives)***	This objective specifically protects water courses and waterbodies in the plan area which will protect the biodiversity of these habitats.
Objective FL 11 – Improvement &/or Restoration of Natural Flood Risk Management Functions Where resources are available and subject to compliance with the Habitats and Birds Directives, Galway County Council will contribute towards the improvement and/or restoration of the natural flood risk management functions of flood plains.	The improvement and restoration of natural flood risk management could be beneficial for protected habitats and species.
Policy WM 1 – Waste Management It is the policy of the Council to support waste reduction and sustainable waste management through prevention, reduction and recycling and by facilitating the provision of adequate waste infrastructure, such as bring banks, at locations that will not adversely affect residential amenity or environmental quality.	Proper waste management will help safeguard biodiversity.
Policy WM 2 – Waste Management Plan Support the implementation of the Replacement Connacht Waste Management Plan 2008-2011, Galway County Council's Litter Management Plan 2007-2010, the National Waste Prevention Programme, the EPA's National Hazardous Waste Management Plan 2014-2020 and any superseding versions of these plans over the lifetime of this Local Area Plan.	Proper waste management will help safeguard biodiversity.
DM Guideline WQ 1 – Water Bodies and Watercourses Require all relevant applications, which are located in close proximity to water bodies or watercourses to submit measures to reduce and prevent pollution to the water body/watercourse, both during construction and after completion of the scheme.	This guideline specifically protects water courses and waterbodies in the plan area from pollution which will protect the biodiversity of these habitats.
Objective UD 4 – Green Network and Landscaping	Maintaining a network of appropriate

Support the development of a network of amenities, open spaces and natural areas that support biodiversity, that incorporate existing landscape features such as local rivers, streams, trees, stone walls and hedgerows, that provide pedestrian and cycling linkages and active and passive recreation opportunities, that help to structure and provide relief from the built environment and that can provide areas for surface water attenuation and flood risk management.	green areas and linking natural features will benefit biodiversity. * Development of amenity areas may impact on water and habitat quality and cause disturbance to protected species.
Policy NH 1 – Natural Heritage, Landscape and Environment It is the policy of Galway County Council, to support the conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of Natura 2000 sites, the protection of Natural Heritage Areas and proposed Natural Heritage Areas and the promotion of the development of a green/ecological network within the plan area, in order to support ecological functioning and connectivity, create opportunities in suitable locations for active and passive recreation and to structure and provide visual relief from the built environment. The protection of natural heritage and biodiversity, including Natura 2000 sites, will be implemented in accordance with relevant EU environmental directives and applicable national legislation, policies, plans and guidelines, including the following (and any updated/superseding documents): • EU Directives, including the *Habitats Directive* (92/43/EEC), the *Birds Directive* (2009/147/EC codified version of Directive), the *Environmental Impact Assessment Directive* (85/337/EEC) & EIA Directive (2014/52/EU), the *Water Framework Directive* (2000/60/EC) and the *Strategic Environmental Assessment Directive* (2001/42/EC); the Environmental Liability Directive (2004/35/EC); • National legislation, including the *Wildlife Act 1976*, the *European Communities (Environmental Impact Assessment) Regulations 1989* (SI No. 349 of 1989) (as amended), the *Wildlife (Amendment) Act 2000*, the *European Union (Water Policy) Regulations 2003* (as amended), the *Planning and Development (Amendment) Act 2010* and the *European Communities (Birds and Natural Habitats) Regulations 2011* (S.I. No. 477 of 2011) and the *Regulation of the European Parliament and of the Council on the Prevention and Management of the Introduction and Spread of Invasive Non-Native Species [2013/0307 (COD)]* (adopted by European Council coming into effect January 2015) • National policy guidelines, including the *Landscape and Landscape Assessment Draft Guidelines 2000*, the *Environmental Impact Assessment Sub-Threshold Development Guidelines 2003*, *Strategic Environmental Assessment Guidelines 2004* and the *Appropriate Assessment Guidelines 2010*. • Catchment and water resource management plans, including the *Western River Basin District Management Plan 2009-2015* (and as updated). • Biodiversity plans and guidelines, including *Actions for Biodiversity 2011-2016: Ireland's National Biodiversity Plan*, the *Biodiversity Action Plan for County Galway 2008-2013* and the *Biodiversity Guidelines* produced by Galway County Council.	As competent Authority, GCC will implement Article 6 of the Habitats directive and ensure all plans, activities and developments which they authorise within the plan area and in the surrounding area fully comply with the requirements for AA Screening or full assessment as required. This would ensure no significant impacts on Natura sites.
Objective NH 1 – Natura 2000 Sites Protect European sites that form part of the Natura 2000 network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EC), the Planning and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) (and any subsequent amendments or updated legislation) and having due regard to the guidance in the Appropriate Assessment Guidelines 2010 (and any updated/superseding guidance). A plan or project (e.g. proposed development) within	As competent Authority, GCC will implement Article 6 of the Habitats directive and ensure all plans, activities and developments which they authorise within the plan area and in the surrounding area fully comply with the requirements for AA Screening or full

the plan area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific evidence and a Habitats Directive Assessment where necessary, that: 1. The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 site (either individually or in combination with other plans or projects); or 2. The plan or project will adversely affect the integrity of any Natura 2000 site (that does not host a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or 3. The plan or project will adversely affect the integrity of any Natura 2000 site (that hosts a priority natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.	assessment as required. This would ensure no significant impacts on Natura sites.
Objective NH 2 – Protected Habitats and Species (*& Refer to Map 2 - Specific Objectives)* **a)** Support the protection of protected habitats and species listed in the annexes to the EU *Habitats Directive 1992* (92/43/EEC) and the *Birds Directive (*2009/147/EC) and regularly occurring-migratory birds and their habitats, species protected under the Wildlife Acts and the Flora Protection Order. This includes the protection of the barn owl, otters, bats and their roosts and the maintenance of woodland, hedgerows, treelines, waterways and ecological networks and corridors which serve as feeding areas, flight paths and commuting routes for bats. **b)** Areas for particular species afforded protection include in the vicinity of St. John the Baptist Church) where barn owl where activity is known and in the vicinity of the Demesne Road and Lowery's Stream where bat activity is known. and the Annacurta (Headford) River and associated streams for Otter, salmon and Lamprey.	Objective specifically to ensure protection of Natura habitats and species as well as those of local and national importance.
Objective NH 3 –Natural Heritage Areas and Proposed Natural Heritage Areas Protect Natural Heritage Areas and proposed Natural Heritage Areas in accordance with the requirements of the *Wildlife Act 1976*, the *Wildlife (Amendment) Act 2000* and the *Planning and Development Act 2000* (as amended). Where a proposed development within the plan area may give rise to likely significant effects on any Natural Heritage Area or proposed Natural Heritage Area an Ecological Impact Assessment or an Environmental Impact Assessment, as appropriate, may be required.	Objective specifically to ensure protection of habitats and species of local and national importance.
Objective NH 4 – Impact Assessments Ensure full compliance with the requirements of the EU *Habitats Directive (92/43/EEC)*, *SEA Directive (2001/42/EC)* and *EIA Directives including* 2011/92/EU & 2014/52/EU and associated legislation/regulations, including the associated *European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of*	Compliance with all legislation and best practice standards in relation to impact assessment for plans and projects in the plan area will ensure protection for

2011), European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004-2011, Planning and Development (Strategic Environmental Assessment) Regulations 2004-2011 and the European Communities (Environmental Impact Assessment) Regulations 1989-2011 & European Union (Environmental Impact Assessment) Planning and Regulations 2014 (or any updated/superseding legislation). Planning applications for proposed developments within the plan area that may give rise to likely significant effects on the environment may need to be accompanied by one or more of the following: an Environmental Impact Statement, an Ecological Impact Assessment Report, a Habitats Directive Assessment Screening Report or a Natura Impact Statement, as appropriate. Ensure that Natura Impact Statements and any other environmental or ecological impact assessments submitted in support of proposals for development are carried out according to best practice methodologies and contain all necessary baseline assessments.	Natura habitats and species.
Objective NH 5 – Biodiversity & Ecological Networks Support the protection of biodiversity and ecological connectivity within the plan area including woodlands, trees, hedgerows, roadside verge vegetation, rivers, streams, natural springs, wetlands, stonewalls, fens, geological and geo-morphological systems, other landscape features and associated wildlife, where these form part of the ecological network. Seek to retain and incorporate these natural features into developments, in order to avoid ecological fragmentation and maintain ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive: **a)**Seek to retain and incorporate these natural features into developments, in order to avoid ecological fragmentation and maintain ecological corridors and stepping stones. **b)** Protect and enhance the water quality and ecology of the Headford River and Annacurta Stream in the plan area and their function as ecological corridors, by maintaining the existing banks and channel and ensuring that new developments are generally set back at least 10m as measured from the near river bank (this distance may be increased and decreased on a site by site basis, as appropriate). **c)** Maintain and enhance biodiversity through the appropriate planting of native trees, shrubs and hedgerows indigenous to the area and of Irish provenance in public and private areas and in new developments. **d)** Seek to prevent the introduction of imported ash trees/plants or other such species into the plan area in line with the Plant Health Directive and any updated legislation.	Objective specifically to ensure protection of Natura habitats and species as well as those of local and national importance.
Objective NH 6 – Water Resources Protect all water resources in the plan area, including rivers, streams, springs, wetlands, surface waters and groundwater quality, in accordance with the requirements and guidance in the EU *Water Framework Directive 2000* (2000/60/EC), the *European Union (Water Policy) Regulations 2003* (as amended), the *Western River Basin Management Plan 2009-2015 (*including any updated or superseding document) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). Support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development in the plan area.	Compliance with all legislation and best practice standards in relation to water resource management in the plan area will ensure protection for Natura habitats and species.
Objective NH 7 – Wetlands, Springs, Rivers and Streams Seek to preserve the wetlands of Headford, identify and protect natural springs, streams/rivers, where possible	Objective specifically for the protection of wetlands will help protect Natura sites

and ensure that any plans/projects with the potential to adversely affect groundwater, springs, streams or rivers, identify the presence of these features and adequately assess the impacts to them. Protect springs identified on Ordnance Survey mapping or any springs newly identified during project assessment, so that they are not impeded.	and species.
Objective NH 8 – Riparian Zones Protect the riparian zones of watercourse systems throughout the plan area, recognising the benefits they provide in relation to flood risk management and in relation to the ecological integrity of watercourse systems. This will include a general 10m protection buffer from rivers within the plan area as measured from the near river bank, (this distance may be increased and decreased on a site by site basis, as appropriate).	Objective specifically for the protection of riparian zones will help protect Natura sites and species.
Objective NH 9 – Trees and Hedgerows **a)** Seek to protect important tree clusters and hedgerow in the plan area, including those within Headford Demesne and those identified on ***Map 2 - Specific Objectives Map*** or as otherwise identified by the Planning Authority, and ensure that development proposals take cognisance of significant trees/tree stands and seek to retain natural boundaries including stonewall, hedgerow and tree boundaries, where possible. **Refer to the Map 2 - *Specific Objectives***. **b)** Seek to carry out a tree survey on important tree stands with the plan area within the lifetime of the plan by suitably qualified personnel.	Protecting trees and hedges in the plan area shall benefit protected species such as bats and birds.
Objective NH 10 – Geological and Geomorphological Systems Protect and conserve geological and geomorphological systems, sites and features from inappropriate development that would detract from their heritage value and interpretation and ensure that any plan or project affecting karst formations are adequately assessed with regard to their potential geophysical, hydrological, hydrogeological or ecological impacts on the environment**.**	Objective specifically for the protection of geological and geomorphological features such as limestone pavement will help protect Natura sites and species.
Objective NH 11 – Control of Invasive and Alien Species Seek to prevent the spread of invasive and alien invasive species and require a landscaping plan to be produced for developments near water bodies and ensure that such plans do not include invasive species.	Objective specifically for the control of invasive alien species will help protect Natura sites and species.
Objective NH 12 – Consultation with Environmental Authorities Ensure that all development proposals are screened to determine whether they are likely to have a significant direct, indirect or cumulative effect on the integrity or conservation objectives of any Natura 2000 site and, where significant effects are likely or uncertain, there will be a requirement for consultation with the relevant environmental authorities as part of any Habitats Directive Assessment that may be required.	Consultation with relevant environmental authorities in appropriate assessment screening will protect Natura habitats and species.
DM Guideline NH 1 – Control of Invasive Species & Bio-Security Measures Ensure larger developments include the relevant documentation with their planning application to demonstrate the bio-security measures proposed to ensure that invasive species will not be introduced and/or spread within the development site.	Guidelines specifically for the control of invasive alien species will help protect Natura sites and species.

4.2 Cumulative and In Combination Interactions

This step aims to identify at this early stage any possible significant in-combination or cumulative effects/impacts of the proposed Headford LAP with other such plans and projects on the relevant Natura 2000 sites and their conservation interests. Other plans and projects specific to this area which potentially could give rise to significant effects on the relevant Natura 2000 sites are the following:

- Galway County Development Plan 2009-2015 and Forthcoming County Development Plan 2015 - 2021
- Western Regional Planning Guidelines 2010-2022
- Replacement Connacht Waste Management Plan
- National Spatial Strategy
- Western RBD Management Plan
- Irish Water Capital Investment Plan 2014-2016
- Inland Fisheries Ireland Corporate Plan 2011-2015
- Groundwater Pollution Reduction Programme
- Galway County Heritage Plan 2009-2014
- Galway County Biodiversity Plan 2008 – 2013
- OPW Flood Risk Management Strategies and Arterial Drainage Schemes are subject to SEA, EIA and Appropriate Assessment as required
- Wastewater Treatment Facilities are currently operating in the following areas which are within the Corrib Catchment Area:

    - Headford - Has capacity and licenced by the EPA, following AA Screening.

    - Tuam – Considered under the 2011 Tuam Local Area Plan. Waste Water Treatment System has capacity & licenced by the EPA, following AA Screening.

    - Maigh Cuillin – Considered under the 2012 Maigh Cuillin Local Area Plan. Waste Water Treatment System has capacity and licensed by the EPA, following AA Screening.

    - Oughterard-Planning permission granted by An Bord Pleanala (2014) for the proposed upgrade of the Waste Water Treatment Facilities. Licence sought from EPA, which is currently being reviewed and a Stage 2 Appropriate Assessment has been submitted.

    - Planning Applications (Granted since 1st Jan 2010).
    -

See Appendix 4 for the detailed description of the planning permissions in Headford. The local planning applications which have been granted are mostly for extension of duration permissions and for small scale residential/commercial development. These permissions, where applicable, will be required to connect into the public wastewater system, thereby minimising potential impacts to water quality.

The Headford Local Area Plan in isolation will not have a significant negative impact on any Natura 2000 sites. The key potential issues highlighted during the screening are the possible effects of developments or activities of the plan on the water quality of Lough Corrib SAC and SPA and the disturbance to species listed as qualifying interests. Most of the Natura Sites within the 15km radius are to the north and east of the plan area.The main direction of groundwater flow in the area is southwest into the Corrib and the fastest flow rates are east-west which effectively rules out hydrological effects on sites to the north and east of the town considering their relative distances from the plan area ans in the opposite direction to the movement of groundwater in the area.

In relation to the plan area and boundary, significant areas of land have been rezoned or dezoned which will curtail development in the plan. The projected population growth over the lifetime of the plan is just 251 people. The wastewater treatment plant has capacity for the projected growth in population

and has been licenced following Appropriate Assessment Screening by the EPA, the competent authority.

The water quality of the Headford River has actually improved in the most recent tests results. There are several policies and objectives in the plan, which are in place to ensure that no negative impacts will occur from developments or activities that arise from the plan.
Galway County Council, as the competent authority will ensure that Appropriate Assessment Screening, and where necessary full Appropriate Assessment, is carried out on all development applications which present within the plan area.

In relation to the cumulative or in combination effects, it is possible that other projects currently in operation within the Corrib Catchment on their own, or in combination with each other, are having a significant impact on the conservation objectives of Lough Corrib SAC/SPA and particularly with regard to the current water quality status of the lake which has been classified as 'moderate'.
The objective is for Lough Corrib to achieve 'good' water quality by 2015. It is currently considered to be at risk of not achieving this. The water quality of the Headford River has recently achieved 'good status' and as such it should be considered that the current plan and by extension the draft plan is actually helping to meet the conservation objectives.

As for the other plans and projects that are having an impact on the site; there are no specific measures that could be incorporated into the Headford LAP that could mitigate for these impacts as they are outside the scope of the plan. In addition many small scale impacts at the local level around the catchment are outside the remit of the Local Authority. However, the Headford Local Area Plan is part of a hierarchical planning policy context. The Headford Plan is consistent and compliant with the policies and objectives of the Galway County Development Plan, which in turn is compliant with the regional planning guidelines for the area. The Galway CDP has been subject to full SEA and HDA and contains policies/objectives and Development Management Standards that will ensure that Article 6(3) of the Habitats Directive is implemented in order to ensure that the integrity of the Natura 2000 sites is achieved. There are also a number of towns/villages that come within the Corrib catchment that are under the auspices of the Galway or Mayo CDPs and these local area plans would themselves have been subject to SEA and HDA assessment as part of their adoption processes.

5. Assessment of Effects

The elements of the plan that may have the potential to give rise to impacts on Natura 2000 sites relate to land use change within the plan area.

Increase in inputs to Headford WWTP, through additional residential or commercial units or increase in intensity of land use have the potential to lead to the deterioration in water quality, leading to impacts on qualifying habitats and species of Natura 2000 sites, in particular Lough Corrib which is downstream of the plan boundary. However, an Appropriate Assessment Screening Report which accompanied the Discharge Licence Application for the Headford WWTP concluded that significant effects on Natura 2000 sites were not likely.

Assessment Criteria	
Describe any likely direct, indirect or secondary impacts of the plan(either alone or in combination with other plans or projects) on the Natura 2000 sites by virtue of:	
Size and Scale	The Headford Plan area is approximately 125ha in size. The undeveloped land is characterised by improved agricultural grassland and amenity grassland. There are no European sites located within the plan area
Land-Take	The Headford LAP will not involve land-take of Natura 2000 sites, as there are no designated sites within the plan area.
Distance from Natura 2000 sites or key features of the site	The Headford plan area is located approximately 3.4km from the River Corrib SAC/SPA. Distances to other Natura sites are identified in Table 3.2.
Resource Requirements	The water supply to Headford is served by the Tuam Regional Water Supply, with water sourced from the Corrib at Luimnagh.. This is subject to a water abstraction order ratified by An Bord Pleanala. Both the supply and network are adequate for the lifetime of the plan and beyond. Galway County Council has included Policy (WQ1) in the Headford Local Area Plan 2015-2021 which supports the protection of water quality in accordance with the EU Water Framework Directive(2006/60/EC) and the European Communities(Water Policy) Regulations 2003(SI No.722 of 2003)(as amended)(or any updated legislation), including the implementation of the relevant recommendations and measures as outlined in the Western River Basin District Management Plan 2009-2015, (and any updated/superseding documents).
Emissions	Galway County Council has included Objectives UI3 and UI4 relating to the provision of wastewater disposal within the plan area and that new developments will only be permitted where it can be clearly demonstrated that they can be serviced and that there is adequate capacity in order to protect Lough Corrib cSAC and SPA and their respective qualifying interests. The current wastewater treatment facility has been licensed by the EPA and has sufficient capacity to meet the requirements for the projected population growth and development over the lifetime of the plan. The plant is subject to continuous review by the EPA and will be upgraded as and when higher standards are adopted by the

	EPA. Objective UI5 seeks to ensure the satisfactory and sustainable disposal of surface water and promoting sustainable drainage systems (SuDs) such as permeable surfaces and rainwater harvesting. Objectives ENV3 and ENV4 ensure adherence to relevant air quality standards and promoting planting and landscaping to improve air quality.
Excavation Requirements	The plan does not propose any excavations that will result in likely significant effects to Natura 2000 sites.
Transportation Requirements	There are a number of road projects identified within the Transport Section of the plan. There is potential for impacts in the form of pollution and changes to the hydrological regime and hydraulic loading during the construction of the road projects. The mitigation measures identified in the plan will ensure that these potential negative impacts do not arise. As with all developments, the road projects will be subject to Policy NH1 and Objectives DS3, NH1, NH2 and NH6 of the plan.
Describe any likely changes to the Natura 2000 site arising as a result of:	
Reduction of habitat Area	There are no Natura 2000 site lands in the Headford plan area and therefore no loss of lands.
Disturbance of key species	There is potential for disturbance to Brook lamprey, Salmon, Otters or Bats where development activity is carried out close to waterways or tree lines. Indirect impact on aquatic species could result from developments which have the potential to negatively affect water quality. However there are objectives that ensure that there is generally a 10metre set back from all rivers and watercourses within the plan area and the following objectives DS3,UI2,UI11,UI12,NH1,NH2,NH4,NH5,NH6 and,NH7 will ensure that negative impacts do not arise as a result of the construction of new developments.
Habitat or species fragmentation	The Headford LAP will not result in the fragmentation of qualifying habitats or the fragmentation of habitats upon which qualifying species or the European Sites under the sphere of influence of the plan rely. There are no Natura 2000 sites located within the plan area; however there are objectives that ensure that there is generally a 10 metre set back from all rivers and watercourses within the plan area.
Reduction in species density	Developments arising as a result of the plan would have the potential to adversely affect water quality of the Headford River and associated streams. Poor construction practices during project-level developments could result in perturbations to the water quality of these watercourses. Any perturbation to the water quality of this river will have the potential to result in a reduction in key species densities occurring within Lough Corrib. Policies of the plan protect the water quality adjacent to land use zonings, by establishing a general 10m buffer along all watercourses within the plan area which will ensure that such impacts are avoided to qualifying species.
Changes in key indicators of conservation status	The European Commission (2006) Explanatory Notes and Guidelines for the Assessment, Monitoring and Reporting under Article 17 of the Habitats Directive outlines key indicators for assessing the conservation status of designated sites. ***The key indicators for assessing the conservation status of key species are:***

	Range: As outlined above, the elements of the Headford LAP will not result in direct or indirect impacts to European Sites under consideration. Therefore the distribution of key species, for which these sites are designated, will not be altered by the proposed zoning variation in the new Plan. **Population:** Development resulting from the Headford LAP will not be granted planning permission should likely significant effects to populations of key species be identified. Therefore, as only projects which will not result in direct or indirect impacts to SACs or SPAs will be permitted, the populations of key species will not be affected as a result of the proposed zoning in the new plan. **Habitat for the Species:** The mitigation policies and objectives set out in the plan will ensure that the conservation status of the habitats which support the qualifying species of the Natura 2000 sites are maintained **Future Prospects:** The impact avoidance measures contained in the policies and objectives of the plan will ensure that the adoption of the plan will not jeopardise the future prospects of qualifying species supported by Lough Corrib and other Natura 2000 sites. ***The key indicators for assessing the conservation status of Annex 1 qualifying habitats are:*** **Range:** Policies and objectives outlined in the plan will ensure that no elements of the plan represent a risk to the current range of qualifying habitats supported by Lough Corrib and other Natura 2000 sites. **Area covered by habitat type within range:** Area of qualifying habitats occurring within the Lough Corrib and other Natura 2000 Sites will not be affected by the Plan. **Specific structures and functions:** Wetland habitats such as Oligotrophic waters, Hard water lakes, Cladium Fens, Calcareous Fens and Turloughs represent the Annex 1 habitats supported by Lough Corrib SAC/SPA and other Natura 2000 sites within 15km of the plan boundary. The structure and functioning of these aquatic habitats within hydrologically connected European sites are dependent on the connectivity of freshwater systems within Lough Corrib. These habitats function as breeding and foraging habitats for a range of "key species". This function is maintained by ensuring the hydrological integrity (which includes structure and water quality) of Lough Corrib and associated water bodies. Measures outlined in the plan will ensure that the specific structure and function of these habitats and the Natura 2000 sites as a whole are maintained. **Future prospects:** The plan policies and objectives and the approach of the plan to ensuring adverse impacts to the environment are avoided will ensure that Plan will not negatively influence the status of Annex 1 habitats occurring within Lough Corrib and other Natura 2000 Sites.
Climate Change	There is currently insufficient information to predict the effects of climate change on the proposed site. It is predicted that on a national level winters will become wetter and summers drier but the effect on local precipitation is unknown. The LAP contains Policy ENV1 and Objective ENV2 which seek to reduce and avoid human induced impacts on climate change through supporting national and international legislation and strategies on climate change and to integrate green infrastructure to mitigate and adapt to climate change.
Describe any likely impacts on the Natura 2000 site as a whole in terms of:	
Interference with key relationships that define the structure of	As mentioned above, the key relationships that define the structure of the Natura sites in the vicinity of the plan area are the interactions between surface water bodies and watercourses connected to Lough Corrib as well as the surface and groundwater influences of the Turloughs within the Clare-Corrib groundwater body. Any impacts

the site	to qualifying habitats; instream habitats; or the connectivity of the freshwater ecosystems would have the potential to negatively impact on the structure of hydrologically connected European sites. However, for reasons outlined above the plan will not result in adverse effects to the qualifying Annex 1 habitats or instream habitats; or interfere with the connectivity of Lough Corrib and other hydrologically connected European sites.
Interference with key relationships the define the function of the site	Potential impacts which could result in adverse affects to the water quality of surface watercourses will in turn have the potential to negatively impact Annex 1 habitats and/or populations of qualifying species for European Sites. The relationship of species and habitats with the abiotic factors that determine the structure and function of Lough Corrib are the key relationships that define the function of the relevant Natura 2000 sites. For reasons outlined above, the proposed Plan will not result in interference to these key relationships that define the function of the relevant Natura 2000 sites.
Describe from the above the elements of the project or plan or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude is not known:	
The impacts of all aspects of the plan have been assessed at this stage. It is likely that there will be no impacts resulting from the proposed Headford Local Area Plan on the qualifying habitats and species of the identified Natura 2000 sites. It is considered that the potential impacts are likely to not be significant and therefore impacts do not need to be investigated further. Therefore a Stage 2'Appropriate Assessment' is not considered necessary.	

6.0 Conclusion

If taken in isolation there are a number of policies and objectives which might be considered to give rise to significant adverse effects to the qualifying interests of Natura 2000 sites. However throughout the Plan there are policies and objectives which provide for the protection of species and habitats and which will prevent significant adverse impacts on the qualifying interests of Natura 2000 sites. Therefore it has been concluded that significant impacts to European Natura 2000 sites will not arise as a result of the Headford Local Area Plan either alone or in combination with other plans or projects. **Therefore a Stage 2 Appropriate Assessment is not required.**

7.0 References

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Appendix A

Site Synopses for Natura 2000,NHA & pNHA

Site Name: Lough Corrib SAC

Site Code: 000297

Lough Corrib is situated to the north of Galway city and is the second largest lake in Ireland, with an area of approximately 18,240 ha (the entire site is 20,556 ha). The lake can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south, and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones to the north. The surrounding lands to the south and east are mostly pastoral farmland, while bog and heath predominate to the west and north. A number of rivers are included within the cSAC as they are important for Atlantic Salmon. These rivers include the Clare, Grange, Abbert, Sinking, Dalgan and Black to the east, as well as the Cong, Bealanabrack, Failmore, Cornamona, Drimneen and Owenriff to the west. In addition to the rivers and lake basin, adjoining areas of conservation interest, including raised bog, woodland, grassland and limestone pavement, have been incorporated into the site.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3110] Oligotrophic Waters containing very few minerals
[3140] Hard Water Lakes
[3260] Floating River Vegetation
[6210] Orchid-rich Calcareous Grassland*
[6410] *Molinia* Meadows
[7110] Raised Bog (Active)*
[7120] Degraded Raised Bog
[7150] Rhynchosporion Vegetation
[7210] *Cladium* Fens*
[7220] Petrifying Springs*
[7230] Alkaline Fens
[8240] Limestone Pavement*
[91A0] Old Oak Woodlands
[91D0] Bog Woodland*
[1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
[1092] White-clawed Crayfish (*Austropotamobius pallipes*)
[1095] Sea Lamprey (*Petromyzon marinus*)
[1096] Brook Lamprey (*Lampetra planeri*)

[1106] Atlantic Salmon (*Salmo salar*)
[1303] Lesser Horseshoe Bat (*Rhinolophus hipposideros*)
[1355] Otter (*Lutra lutra*)
[1393] Slender Green Feather-moss (*Drepanocladus vernicosus*)
[1833] Slender Naiad (*Najas flexilis*)

The shallow, lime-rich waters of the southern basin of Lough Corrib support one of the most extensive beds of stoneworts (Charophytes) in Ireland, with species such as *Chara aspera*, *C. hispida*, *C. delicatula*, *C. contraria* and *C. desmacantha* mixed with submerged pondweeds (*Potamogeton perfoliatus*, *P. gramineus* and *P. lucens*), Shoreweed (*Littorella uniflora*) and Water Lobelia (*Lobelia dortmanna*). These *Chara* beds are an important source of food for waterfowl. In contrast, the northern basin contains more oligotrophic and acidic waters, without *Chara* species, but with Shoreweed, Water Lobelia, Pipewort (*Eriocaulon aquaticum*), Quillwort (*Isoetes lacustris*), Alternate Water-milfoil (*Myriophyllum alternifolium*) and Slender Naiad (*Najas flexilis*). The last-named is listed under the Flora (Protection) Order, 1999, and is an Annex II species under the E.U. Habitats Directive.

Large areas of reedswamp vegetation, dominated by varying mixtures of Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*), occur around the margins of the lake. Reedswamp usually grades into species-rich marsh vegetation characterised by Slender Sedge (*Carex lasiocarpa*), Water Mint (*Mentha aquatica*), Water Horsetail (*Equisetum fluviatile*) and Bogbean (*Menyanthes trifoliata*). Of particular note are the extensive beds of Great Fen-sedge (*Cladium mariscus*) that have developed over the marly peat deposits in sheltered bays, particularly in the south-east corner of the lake. Alkaline fen vegetation is more widespread around the lake margins and includes, amongst the typically diverse range of plants, the Slender Cottongrass (*Eriophorum gracile*), a species protected under the Flora (Protection) Order, 1999. Wet meadows dominated by Purple Moor-grass (*Molinia caerulea*) occur in seasonally flooded areas close to the lake shore. These support species such as Sharp-flowered Rush (*Juncus acutiflorus*), Jointed Rush (*J. articulatus*), Carnation Sedge (*Carex panicea*), Devil's-bit Scabious (*Succisa pratensis*), Creeping Bent (*Agrostis stolonifera*) and Tormentil (*Potentilla erecta*), amongst others.

This large site contains four discrete raised bog areas and is selected for active raised bog, degraded raised bog, Rhynchosporion and bog woodland. Active raised bog comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (*Sphagnum* spp.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, *Sphagnum* lawns, flushes and soaks. Degraded raised bog corresponds to those areas of high bog whose hydrology has been adversely affected by peat cutting, drainage and other land use activities, but which are capable of regeneration. The Rhynchosporion habitat occurs in wet depressions, pool edges and erosion channels where the vegetation includes White Beak-sedge (*Rhynchospora alba*) and/or Brown Beak-sedge (*R. fusca*), and at least some of the following associated species, Bog Asphodel (*Narthecium ossifragum*), sundews (*Drosera* spp.), Deergrass (*Scirpus cespitosus*) and Carnation Sedge.

At Addergoole, on the eastern shores of Lough Corrib, there is an important area of western raised bog. This bog area is one of the most westerly, relatively intact raised bogs in the country. There are also other substantial areas of raised bog along various tributaries of the Corrib in east Co. Galway, namely Slieve Bog, Lough Tee Bog and Killaclogher bog. The active parts of these bogs mostly correspond to the wettest areas, where there are well-developed surface features with hummocks, lawns and pools. It is in such areas that Rhynchosporion vegetation is best represented. The dominant species is the aquatic bog moss *Sphagnum cuspidatum,* which is usually accompanied by Bogbean*,* White Beak-sedge*,* Bog Asphodel*,* Common Cottongrass (*Eriophorum angustifolium*), Bog Sedge (*Carex limosa*) and Great Sundew (*Drosera anglica*). Brown Beak-sedge, a locally rare plant of wet bog pools, has been recorded from a number of the bog areas within the site. At Addergoole a substantial bog lake or soak occurs and this is infilling with large rafts of Rhynchosporion vegetation at present. This area is associated with an important area of wet bog woodland dominated by Downy Birch (*Betula pubescens*).

The largest part of the uncut high bog comprises degraded raised bog. Degraded bog is dominated by a raised bog flora which tends to be rather species-poor because of disturbance and/or drying-out. The most conspicuous vascular plant species are usually Carnation Sedge, Heather (*Calluna vulgaris*), Cottongrasses*,* Cross-leaved Heath (*Erica tetralix*), Bog Asphodel and Deergrass. Bog-rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccos*), two species indicative of raised bog habitat, are frequent on both degraded and active areas of raised bog. *Sphagnum* cover is generally low within degraded areas due to a combination of drying-out and frequent burning.

Limestone pavement occurs along much of the shoreline in the lower Corrib basin, and supports a rich and diverse flora, including Herb-Robert (*Geranium robertianum*), Bloody Crane's-bill (*G. sanguineum*), Carline Thistle (*Carlina vulgaris*), Spring Gentian (*Gentiana verna*), Wild Thyme (*Thymus praecox*), Rustyback (*Ceterach officinarum*), Wood Sage (*Teucrium scorodonia*), Slender St. John's-wort (*Hypericum pulchrum*), Quaking-grass (*Briza media*) and Blue Moor-grass (*Sesleria albicans*). Areas of Hazel (*Corylus avellana*) scrub occur in association with exposed limestone pavement and these include species such as Hawthorn (*Crataegus monogyna*), Buckthorn (*Rhamnus catharticus*), Spindle (*Euonymus europaeus*), with occasional Juniper (*Juniperus communis*). Three Red Data Book species are also found in association with limestone scrub - Alder Buckthorn (*Frangula alnus*), Shrubby Cinquefoil (*Potentilla fruticosa*) and Wood Bitter-vetch (*Vicia orobus*), the latter is also protected under the Flora (Protection) Order, 1999.

Open areas of orchid-rich calcareous grassland are also found in association with the limestone exposures. These can support a typically rich vegetation, including many orchids such as Pyramidal Orchid (*Anacamptis pyramidalis*), Common Spotted-orchid (*Dactylorhiza fuchsii*), Early-purple Orchid (*Orchis mascula*), Frog Orchid (*Coeloglossum viride*), Fragrant Orchid (*Gymnadenia conopsea*), Marsh Helleborine (*Epipactis palustris*), Greater Butterfly-orchid (*Platanthera chlorantha*) and Irish Lady's-tresses(*Spiranthes romanzoffiana*). The latter is protected under the Flora (Protection) Order, 1999.

The Hill of Doon, located in the north-western corner of the lake, is a fine example of a Sessile Oak (*Quercus petraea*) woodland. The understorey is dominated by Sessile Oak, Holly (*Ilex aquifolium*) and occasional Juniper. There are occasional Yew (*Taxus baccata*) and Ash (*Fraxinus excelsior*), and a well developed ground layer dominated by Bilberry (*Vaccinium myrtillus*), Hard Fern (*Blechnum spicant*) and Wood Rush (*Luzula sylvatica*). Woodland also occurs on some of the islands in the lake.

A number of the rivers in the site support submerged and floating vegetation of the Ranunculion fluitantis and Callitricho-Batrachion, including mosses. For example, in the River Corrib species such as Shining Pondweed (*Potamogeton lucens*), Perfoliate Pondweed (*Potamogeton perfoliatus*), Small Pondweed (*P. berchtoldii*), Yellow Water-lily (*Nuphar lutea*), White Water-lily (*Nymphaea alba*) and stoneworts (*Chara* spp.) occur.

The rare and Annex II-listed Slender Green Feather-moss (*Drepanocladus vernicosus*) is found at the fen at Gortachalla, north-east of Moycullen. Here it is widespread around the margins, and this constitutes a large and significant population in the national context. A very large population of another rare moss, *Pseudocalliergon trifarium,* is also found in this area.

The lake is rated as an internationally important site for waterfowl. Counts from 1984 to 1987 revealed a mean annual peak total of 19,994 birds. In the past a maximum peak of 38,281 birds was recorded. The lake supports internationally important numbers of Pochard (average peak 8,600) and nationally important numbers of the following species: Coot (average peak 6,756), Mute Swan (average peak 176), Tufted Duck (average peak 1,317), Cormorant (average peak 110) and Greenland White-fronted Goose (average peak 83). The latter species is listed on Annex I of the E.U. Birds Directive. The Coot population

is the largest in the country and populations of Tufted Duck and Pochard are second only to Lough Neagh. Breeding pairs of Common Scoter on the lake number 30-41 (1995 data), as well as breeding populations of Arctic Tern and Common Tern. Other bird species of note recorded from or close to the lake recently include Hen Harrier, Whooper Swan, Golden Plover and Kingfisher. All of these species are listed on Annex I of the E.U. Birds Directive.

Otter and Irish Hare have been recorded regularly within this site. Both of these species are listed in the Red Data Book and are legally protected by the Wildlife Act, 1976. Otter is also listed on Annex II of the E.U. Habitats Directive. Lough Corrib is considered one of the best sites in the country for Otter, due to the sheer size of the lake and associated rivers and streams, and also the generally high quality of the habitats. Atlantic Salmon (*Salmo salar*) use the lake and rivers as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive. Lough Corrib is also a well known fishing lake with a very good Trout (*Salmo trutta*) fishery. The lake has a population of Sea Lamprey (*Petromyzon marinus*), a scarce, though probably under-recorded species listed on Annex II of the E.U. Habitats Directive. Brook Lamprey (*Lampetra planeri*), also listed on Annex II, are also known from a number of areas within the site.

A population of Freshwater Pearl Mussel (*Margaritifera margaritifera*), a species listed on Annex II of the E.U. Habitats Directive, occurs within the site. White-clawed Crayfish (*Austropotamobius pallipes*), also listed on Annex II, is well distributed throughout Lough Corrib and its in-flowing rivers over limestone. A summer roost of Lesser Horseshoe Bat, another Annex II species, occurs within the site - approximately 100 animals were recorded here in 1999.

The main threats to the quality of this site are from water polluting activities resulting from intensification of agricultural activities on the eastern side of the lake, uncontrolled discharge of sewage which is causing localised eutrophication of the lake, and housing and boating development, which is causing the loss of native lakeshore vegetation. The raised bog habitats are susceptible to further degradation and drying out due to drainage and peat cutting and, on occasions, burning. Peat cutting threatens Addergoole Bog and already a substantial area of it has been cut away. Fishing and shooting occur in and around the lake. Introduction of exotic crayfish species or the crayfish fungal plague (*Aphanomyces astaci*) could have a serious impact on the native crayfish population. The bat roost is susceptible to disturbance or development.

Despite these ongoing issues, however, Lough Corrib is one the best examples of a large lacustrine catchment system in Ireland, with a range of habitats and species still well represented. These include 14 habitats which are listed on Annex I of the E.U. Habitats Directive, six of which are priority habitats, and nine species which are listed on Annex II. The lake is also internationally important for birds and is designated as a Special Protection Area.

SITE NAME: LOUGH CORRIB SPA

SITE CODE: 004042

Lough Corrib is situated to the north of Galway City and is the largest lake in the country. The lake can be divided into two parts: a relatively shallow basin, underlain by Carboniferous limestone, in the south and a larger, deeper basin, underlain by more acidic granite, schists, shales and sandstones, to the north. The main inflowing rivers are the Black, Clare, Dooghta, Cregg, Owenriff and the channel from Lough Mask.

The main outflowing river is the Corrib, which reaches the sea at Galway City. Over the 1994-97 period Lough Corrib was classified as a mesotrophic system, a change from its oligo/mesotrophic status in the 1991-94 period. It retained its mesotrophic status for the 1998-2000 period, with a reduction in phosphorous and planktonic algal growth noted. Overall, the water quality of the Corrib is considered to be satisfactory. The shallow, lime-rich waters of the southern basin of the lake support one of the most extensive beds of Stoneworts (Charophytes) in Ireland, with species such as *Chara aspera*, *C. hispida*, *C. delicatula*, *C. contraria* and *C. desmacantha* mixed with submerged Pondweeds (*Potamogeton perfoliatus*, *P. gramineus* and *P. lucens*), Shoreweed (*Littorella uniflora*) and Water Lobelia (*Lobelia dortmanna*). These *Chara* beds are a very important source of food for waterfowl. In contrast, the northern basin contains more oligotrophic and acidic waters, largely lacking Charophyte species, but with such species as Shoreweed, Water Lobelia, Pipewort (*Eriocaulon aquaticum*) and Quillwort (*Isoetes lacustris*). Large areas of reedswamp vegetation, dominated by varying mixtures of Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*), occur around the margins of the lake.

Reedswamp usually grades into species-rich marsh vegetation. Of particular note are the extensive beds of Great Fen-sedge (*Cladium mariscus*) that have developed over the marly peat deposits in sheltered bays. Limestone pavement occurs along much of the shoreline in the lower Corrib basin and supports a rich and diverse flora. The lake has numerous islands, from rocky islets to larger islands with grassland or woodland. The surrounding lands are mostly pastoral farmland, to the south and east, and bog and heath, to the west and north. Lough Corrib is of international importance for wintering Pochard (10,182) – all figures are average peaks for the 5 seasons 1995/96-1999/00. It is one of the top five sites in the country for wintering waterfowl and also qualifies for international importance because it regularly supports well in excess of 20,000 waterfowl. It is the most important site in the country for Pochard, Tufted Duck (5,521) and Coot (14,473), supporting 21%, 46% and 13% of the respective national totals. It also has nationally important populations of wintering Mute Swan (182), Gadwall (48), Shoveler (90), Golden Plover (1,727) and Lapwing (2,424). The lake is a traditional site for Greenland White-fronted Goose (62). Relatively small numbers of Whooper Swan (35) occur, along with Wigeon (528), Teal (77), Mallard (155), Goldeneye (74), Curlew (114) and Cormorant (36). Lough Corrib is a traditional breeding site for gulls and terns, with various islands being used for nesting each year. There are important colonies of Common Tern (37 pairs in 1995) and Arctic Terns (60 pairs in 1995), both populations being of national importance. The site supports substantial colonies of Black-headed Gull (856 individuals in 1999) and Common Gull (181 pairs in 1999), these representing 11% and 17% of the respective national totals. Lesser Black-backed Gull (51 individuals in 1999) and Great Black-backed Gull (16 individuals in 1999) also breed, with a few pairs of Herring Gull. Considerably higher numbers of breeding gulls occurred in the recent past, as shown by surveys in 1977 and 1993; the reasons for the continued declines are, however, not fully known. Whilst only colonised in the 1970/80s by nesting Common Scoter, Lough Corrib now supports approximately half of the national population of this rare duck, a Red Data Book species. The population has been stable since the mid-1990s, with 36 pairs recorded in the most recent survey in 1999. Lough Corrib supports a range of species listed on Annex II of the E.U. Habitats Directive, including Otter, Salmon and Slender Naiad (*Najas flexilis*). The lake is an internationally renowned salmonid fishery. Any deterioration in water quality of the lake would be of concern for the wintering birds and perhaps the breeding Common Scoter, though the condition of the lake has been satisfactory in recent years. The reasons for the long-term declines in the breeding gull populations since the 1970s are not known and require investigation. Fishing and shooting occur in and around the lake though is it not considered that these are significant threats to the birds. Lough Corrib is one of the top ornithological sites in the country, and easily qualifies for international importance on the basis of numbers of wintering birds using it. It is also of international importance for its population of Pochard. There are a further seven species of wintering waterfowl that have populations of national importance. Its populations of breeding gulls and terns are also notable, with nationally important numbers of Common Tern, Arctic Tern, Common Gull and Black-headed Gull. The site is now the most important in the country for nesting Common Scoter. It is of note that several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Greenland White-fronted Goose, Golden Plover, Common Tern and Arctic Tern. The site has been relatively well monitored for birds in recent years. Research is required into the reasons for the decline of the breeding gull populations.

Site Name: Cloughmoyne SAC
Site Code: 000479

Cloughmoyne is located approximately 5 km north-west of Headford in Co. Mayo. The site lies on the south-west slope of a low limestone ridge and spreads southwards to include a fen and lake. The site is situated in the townland of Ballisnahyny (just west of the Cloughmoyne townland). The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[8240] Limestone Pavement*

The site includes areas of species-rich dry grassland, where the following species are common: Blue Moor-grass (*Sesleria albicans*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Red Fescue (*Festuca rubra*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Mouse-ear Hawkweed (*Hieracium pilosella*), Kidney Vetch (*Anthyllis vulneraria*), White Clover (*Trifolium repens*) and Red Clover (*Trifolium pratense*). Also found are Bloody Cranesbill (*Geranium sanguineum*), Columbine (*Aquilegia vulgaris*), Juniper (*Juniperus communis*), Madder (*Rubia peregrina*), the scarce Dense-flowered Orchid (*Neotinea maculata*), Spring Gentian (*Gentiana verna*) and the rare and legally protected (Flora (Protection) Order, 1999) species, Wood Bitter-vetch (*Vicia orobus*).

The site also includes some species-poor fen vegetation, dominated by Black Bog-rush (*Schoenus nigricans*), with Common Reed (*Phragmites australis*) and Great Fen-sedge (*Cladium mariscus*) occurring occasionally. Other species found in this fen vegetation include Wild Angelica (*Angelica sylvestris*), Cuckooflower (*Cardamine pratensis*), Devil's-bit Scabious (*Succisa pratensis*), Marsh Pennywort (*Hydrocotyle vulgaris*), Bogbean (*Menyanthes trifoliata*), Long-stalked Yellow-sedge (*Carex lepidocarpa*), Common Cottongrass (*Eriophorum angustifolium*), Common Butterwort (*Pinguicula vulgaris*) and the bryophytes *Scorpidium scorpioides* and *Campylium stellatum*.

The site also includes some 40 ha of good quality limestone pavement of the 'shattered' form. Limestone pavement is an important habitat that is listed, with priority status, on Annex I of the E.U. Habitats Directive. At this site the limestone pavement supports a typical flora and is associated with areas of species-rich calcareous grassland and heath. Of particular note is the presence of the very rare and legally protected (Flora (Protection) Order, 1999) species Limestone Fern (*Gymnocarpium robertianum*).

The Common Frog, a species listed in the Red Data Book, breeds within the site. Agricultural activities, in particular reclamation of limestone pavement and fertilization, within and adjacent to the site pose the main threats to the survival of the site and its rare species. Cloughmoyne is of considerable conservation significance for its good quality limestone pavement, a rare and threatened habitat, and for the presence of two rare plant species.

Site Name: Mocorha Lough SAC
Site Code: 001536

Mocorha Lough comprises a shallow wetland complex situated 8 km east of Cong, in Co. Mayo. It lies in a linear depression in the Carboniferous limestone running north-eastwards from Lough Corrib. The predominant habitat on the site is fen, but areas of dry calcareous grassland, wet grassland and Juniper (*Juniperus communis*) scrub also occur. Very little open water remains at the site.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[7210] *Cladium* Fens*

Mocorha Lough includes a large area of fen vegetation that is dominated by Great Fen-sedge (*Cladium mariscus*), accompanied by some Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*). Areas of fen dominated by Black Bog-rush (*Schoenus nigricans*) are scattered through the site, but are particularly well-developed near the southern and northern margins of the site. The scarce moss *Drepanocladus cossonii* has been recorded from *Schoenus* fen in the north of the site.

Calcareous heath/grassland vegetation occurs on high ground surrounding the centre of the site. This vegetation is notable for the presence of Juniper, which occurs here in abundance, along with such species as Black Bog-rush, Bell Heather (*Erica cinerea*), Heather (*Calluna vulgaris*), Crested Dog's-tail (*Cynosurus cristatus*), Common Knapweed (*Centaurea nigra*), Blue Moor-grass (*Sesleria albicans*), Wild

Thyme (*Thymus praecox*), Devil's-bit Scabious (*Succisa pratensis*), Oxeye Daisy (*Leucanthemum vulgare*) and Bracken (*Pteridium aquilinum*), amongst others. Areas of heathy calcareous grassland with Juniper are also found on the western margin of the site.
The site supports locally important numbers of wetland birds, especially Snipe and Mallard.
Mocorha Lough is of considerable conservation significance as it supports one of the largest stands of Great Fen-sedge in the west of Ireland. This habitat is listed on Annex I of the E.U. Habitats Directive with priority status. The presence of areas of heathy calcareous grassland, Juniper scrub and *Schoenus* fen adds considerably to the importance of the site.

Site Name: Shrule Turlough SAC

Site Code: 000525

Shrule Turlough is orientated east-west in an extensive natural basin surrounded by gently undulating farmland, with slightly higher scrub-covered land to the north. Around the edges of the turlough there are scattered boulders and some limestone outcrops. It is found just north-west of the village of Shrule in Co. Mayo.
The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[3180] Turloughs*
This is a large, highly oligotrophic turlough, with thick marl and peat deposits. There is no above-ground outflow from the turlough. Drainage attempts have been made by enlarging the swallow holes, but the turlough still floods regularly and it seems to show little modification due to the drainage efforts. Peat cutting no longer occurs but cattle graze on reclaimed peat margins and around the swallow holes.
Shrule Turlough has a high level of physical and vegetation diversity, and supports the second largest number of plant communities of any turlough surveyed (18 in all). Fen vegetation is especially well-developed, with the largest extent of both Great Fen-sedge (*Cladium mariscus*) fen and Black Bog-rush (*Schoenus nigricans*) fen found in any turlough. The site also supports important stands of tall sedge and yellow sedge communities. The site supports a range of plants that are quite rare in turloughs, among them Whorled Water-milfoil (*Myriophyllum verticillatum*), Least Bur-reed (*Sparganium minimum*), Greater Bladderwort (*Utricularia vulgaris*) and Creeping Yellow-Cress (*Rorippa sylvestris*).
Lough Lee, located at the southern end of the site, is surrounded by wet grassland and, at its northern side, by a mosaic of species-rich wet and dry grassland with outcropping limestone. The lough itself supports beds of Common Reed (*Phragmites australis*).
Shrule turlough has a small catchment area and seems to be little modified by human activities. The oligotrophic and peaty nature of the site makes it unusual in the general range of turloughs and gives it a very significant ecological value. In addition, the site is large and seemingly largely uninfluenced by the surrounding land uses. Its high vegetation diversity and the presence of a number of species generally rare in turloughs is of further interest.

Site Name: Clyard Kettle-holes SAC

Site Code: 000480

This site comprises a number of small lakes and turloughs developed between stony hillocks in the jumbled topography of the moraines west of Kilmaine, Co. Mayo. Some of these lakes are connected with each other but others appear to fill and empty by subterranean means. As is often the case with such features, apparently small physical differences have led to wide divergences in the development of vegetation in each basin.
The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[3180] Turloughs*
[7210] *Cladium* Fens*
The main plant community in the kettle-holes at Clyard townland is *Cladium* fen, dominated by Great Fen-sedge (*Cladium mariscus*), with Black Bog-rush (*Schoenus nigricans*) and Slender Sedge (*Carex lasiocarpa*). Clear shallow-water areas are filled by stoneworts (Characeae). Dense reedbeds are found in deeper waters, formed by Common Club-rush (*Scirpus lacustris*) and Common Reed (*Phragmites*

australis), with conspicuous tussocks of Greater Tussock-sedge (*Carex paniculata*) and Tufted-sedge (*Carex elata*). A more species-rich community, formed largely of Tubular Water-dropwort (*Oenanthe fistulosa*) and Bogbean (*Menyanthes trifoliata*), occurs in quaking marsh areas. More eutrophic plants such as Nodding Bur-marigold (*Bidens cernua*), Branched Bur-reed (*Sparganium erectum*), Fool's Water-cress (*Apium nodiflorum*) and Blue Water-speedwell (*Veronica anagallis-aquatica*) occur in these communities. Common marsh plants such as Square-stalked St. John's-wort (*Hypericum tetrapterum*), Marsh Pennywort (*Hydrocotyle vulgaris*), sedges (*Carex nigra* and *C. rostrata*) and Grass-of-parnassus (*Parnassia palustris*) are widely distributed, while Knotted Pearlwort (*Sagina nodosa*), Meadow Thistle (*Cirsium dissectum*) and Marsh Lousewort (*Pedicularis palustris*) are especially associated with the fen.

To the north of Clyard, in Coolisduff townland, lies a turlough that floods in winter to an area of 12 ha. The basin is fringed by Gorse (*Ulex europaeus*) and the inundated vegetation receives a heavy coating of calcium carbonate. This turlough drains to a swallow hole in the north-west corner, with summer pools supporting stands of Great Fen-sedge. Another turlough lies just to the north, in Thomastown townland. The southern end of this turlough contains damp grassland vegetation, with Creeping Bent (*Agrostis stolonifera*), Creeping Buttercup (*Ranunculus repens*) and mosses such as *Calliergonella cuspidata*. The northern part is wetter, with Silverweed (*Potentilla anserina*), and contains two pools. Two further turlough areas occur to the west, at Cahernagry East, which floods to an area of 12 ha, and at Caherhemush – Ballywalter, which floods to over 25 ha.

This series of turloughs are of interest for conservation as they support good examples of a habitat listed with priority status under the E.U. Habitats Directive. The occurrence of more permanent water bodies in the kettleholes adds considerable diversity to the site. The presence of *Cladium* fen, a habitat also listed with priority status under the E.U. Habitats Directive, is of particular conservation importance.

Site Name: Ardkill Turlough SAC

Site Code: 000461

Ardkill turlough is situated about 7 km east of Ballinrobe in Co. Mayo, and is one of a group of five turloughs that occupy hollows in rolling countryside. It is set amongst low limestone knolls with drift around the south and east. Exposed limestone extends out across the northern part forming a central island with low cliffs. The basin has steep western sides but slopes more evenly to the east. There is much loose rock in the north-eastern part.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3180] Turloughs*

At Ardkill turlough there is a deep pond at the western end of the basin which is of the order of 6 m below flood level. A shallower pond occurs in the south-eastern sector. In the south-west corner there is a swallow hole at the base of the slope just above floor level. Water also rises at the edge of the northern rock outcrop as a spring. There is no above-ground inflow to the basin. Peat has accumulated in the lower-lying parts of the site, with some accumulation of marl (calcium carbonate) on the rocks and other surfaces where the water is more permanent.

The vegetation is highly diverse for such a small area because of the great range of water level fluctuations and occurrence of bare rock. Characteristic turlough plant communities occur in distinct bands at various levels in the basin. At the topmost level there is a narrow fringe of limestone grassland. The sloping ground below this supports sedge-heath with Mat-grass (*Nardus stricta*). Midslopes are dominated by Creeping Cinquefoil (*Potentilla reptans*) communities. The turlough floor is occupied by wet Common Sedge (*Carex nigra*) vegetation. The main lake supports abundant Amphibious Bistort (*Polygonum amphibium*) and Great Yellow-cress (*Rorippa amphibia*).

The shallower pond also has much Amphibious Bistort along with Common Club-rush (*Scirpus lacustris*) and Water Horsetail (*Equisetum fluviatile*). This pond has a soft marly bed with abundant Spiked Water-milfoil (*Myriophyllum spicatum*), Unbranched Bur-reed (*Sparganium emersum*) and Ivy-leaved Duckweed (*Lemna trisulca*). The stone walls in this area are draped with a spectacular abundance of the moss *Fontinalis antipyretica* and Great Yellow-cress (*Rorippa amphibia*). The central parts of the island are not flooded and contain scrub with Burnet Rose (*Rosa pimpinellifolia*), Ground Ivy (*Glechoma hederacea*) and other species. At the flood line there is Bramble *caesius*), Downy Rose (*Rosa tomentosa*), Buckthorn (*Rhamnus catharticus*) and Common Meadow-rue (*Thalictrum flavum*).

Several pairs of Lapwing breed at the site, and Snipe and Common Sandpiper probably breed. The site is likely to attract wintering waterfowl.
The basin floods regularly to a considerable depth and has some water for many months of the year. No drainage attempts are apparent at present. Much of the area is closely grazed by cattle but the vegetation has not suffered unduly from this.
Ardkill is unusual in Mayo for having such a large fluctuation in water depth (8-10 m), a long-lasting pond and exposed limestone on its shore. The variation in topography creates a good diversity of vegetation types within a small area. The site contains Common Meadow-rue (*Thalictrum flavum*), a species known only from this site in Co. Mayo, as well as a number of other uncommon species. A species of parasitic wasp (*Mesoleptus hibernica*) has been described as new to science from Ardkill Turlough. Taken together, all these features combine to make it a site of high conservation value.

Site Name: Skealoghan Turlough SAC

Site Code: 000541

Skealoghan turlough is situated about 5 km from Ballinrobe in Co. Mayo and is one of a group of five turloughs that occupy hollows in rolling countryside. It lies close to the catchment divide between the River Robe (which is 3.2 km away and has been arterially drained) and the Cross River which flows to Lough Corrib.
The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):
[3180] Turloughs*
Most of Skealoghan Turlough has a peaty soil which varies from 0-85 cm thick and rests on calcareous sand. There is some semi-permanent standing water at the eastern end where peat cutting has exposed the underlying marl (calcium carbonate), and this is fed from natural ponds and ditches to the west. The southern part dries out completely in summer and is bordered by a woodland fringe, which includes Buckthorn (*Rhamnus catharticus*).
The vegetation of the turlough is quite diverse. The waterbody at the eastern end consists of winding channels filled with Common Club-rush (*Scirpus lacustris*). The pond edges are colonised by the pondweeds *Potamogeton natans, P. crispus* and *P. coloratus*, along with Water Horsetail (*Equisetum fluviatile*) and Bulbous Rush (*Juncus bulbosus*). Outside this area, the nutrient-poor conditions support a sedge-heath type vegetation, dominated by sedges (*Carex hostiana* and *C. panicea*), Meadow Thistle (*Cirsium dissectum*) and Purple Moor-grass (*Molinia caerulea*). Marsh Stitchwort (*Stellaria palustris*), an uncommon fen plant, occurs amongst this vegetation type. At higher levels, the vegetation includes Mat-grass (*Nardus stricta*), Tufted Hair-grass (*Deschampsia cespitosa*) and Heath-grass (*Danthonia decumbens*). The deeper soil in the southern section carries an expanse of Common Sedge (*Carex nigra*).
Several pairs of Lapwing breed at the site and some wintering waterfowl are likely to visit the turlough. The turlough floods frequently and no drainage attempts are apparent. Much of the area is closely grazed by cattle, as is common in many turloughs, but the vegetation has not suffered unduly from this, especially in the wetter areas. Peat cutting was terminated many years ago after a small amount was removed. Despite some intensive agriculture to the west of the site, the area remains quite oligotrophic. Skealoghan Turlough is of conservation interest for its diversity of vegetation types, particularly the oligotrophic (nutrient-poor) sedge communities.

Site Name: Greaghans Turlough SAC

Site Code: 000503

Greaghans Turlough is the most easterly of a group of five turloughs located near to Ballinrobe in Co. Mayo. It has a flattish, oval basin, which is deepest along the northern edge. For the most part it is surrounded by grazing land and is itself moderately grazed, least intensively at the eastern end. Two small clumps of trees occur on spurs on the northern edge. Two streams enter the turlough, one from the north-east which appears to be permanent, and one from the south which is ephemeral. A channel in the north-western corner may represent attempted drainage but it would appear to have had little overall effect on the hydrology of the site.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3180] Turloughs*

The vegetation in the turlough basin is clearly related to the contours, with Amphibious Bistort (*Polygonum amphibium*) occurring in most of the deepest parts, and Common Sedge (*Carex nigra*), Jointed Rush (*Juncus articulatus*) and Lesser Spearwort (*Ranunculus flammula*) above this. At the edges, this grades into grassland, which is nutrient-enriched and species-poor at the western end but more species-rich to the east. In places, the floor of the turlough is trampled where cattle gather. These areas support a vegetation community which is particularly rich in annual or short-lived perennial species such as Water-pepper (*Polygonum hydropiper*), Redshank (*Polygonum persicaria*), Common Chickweed (*Stellaria media*), Thread-leaved Water-crowfoot (*Ranunculus trichophyllus*), Marsh Foxtail (*Alopecurus geniculatus*) and the rare, Red Data Book species, Northern Yellow-cress (*Rorippa islandica*).

Low, tree-covered spurs are found on the northern side of the turlough. Here Ash (*Fraxinus excelsior*), Hawthorn (*Crataegus monogyna*) and Spindle (*Euonymus europaeus*) occur, above a fringe of Reed Canary-grass (*Phalaris arundinacea*) and Meadowsweet (*Filipendula ulmaria*), through which grow Creeping Cinquefoil (*Potentilla reptans*) and Creeping-Jenny (*Lysimachia nummularia*). Greaghans Turlough is notable for its use in winter by swans - 40 Whooper Swan, a species listed on Annex I of the E.U. Birds Directive, were recorded in 1986 on the site.

Greaghans Turlough is somewhat uniform because of its topography, but is valuable as an undrained turlough with a variety of well-developed vegetation communities. The site is notable for the occurrence of a large area of vegetation dominated by annual plant species. Turloughs are rare and threatened habitats that are listed on Annex I of the E.U. Habitats Directive and, as such, are of conservation significance. The presence of the rare Northern Yellow-cress and of a large flock of wintering Whooper Swan add significantly to the importance of the site.

Site Name: Gortnandarragh Limestone Pavement SAC

Site Code: 001271

Gortnandarragh Limestone Pavement is located on the southern side of Lough Corrib, about 7 km south-east of Oughterard in Co. Galway. The site consists of an exposed limestone plateau which slopes down on its eastern side to cut-over fen and bog. Parts of the pavement exhibit a well-developed system of clints and grykes, while other parts are shattered, with much loose rock. The pavement forms a mosaic with heath, grassland and scrub. Much of the central part is open but the eastern side contains enclosures and is grazed by cattle.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[8240] Limestone Pavement*

The limestone pavement at the site supports a typical flora, including Blue Moor-grass (*Sesleria albicans*), Burnet Rose (*Rosa pimpinellifolia*), Wood Sage (*Teucrium scorodonia*), Wild Thyme (*Thymus praecox*), Spring Gentian (*Gentiana verna*), Carline Thistle (*Carlina vulgaris*), Mouse-ear Hawkweed (*Hieracium pilosella*) and ferns (*Asplenium ruta-muraria, A. trichomanes* and *Ceterach officinarum*). Scattered Juniper (*Juniperus communis*), Yew (*Taxus baccata*), Blackthorn (*Prunus spinosa*), Hazel (*Corylus avellana*), Ash (*Fraxinus* excelsior) and Rowan (*Sorbus aucuparia*) occur but most are browsed, and the Yew in particular exhibits the effects of severe browsing pressure.

The heath at the site is species-rich and is dominated by a mixture of Heather (*Calluna vulgaris*), Bell Heather (*Erica cinerea*) and Bracken (*Pteridium aquilinum*). Other species present include Blue Moor-grass, Sweet Vernal-grass (*Anthoxanthum odoratum*), Common Bent (*Agrostis capillaris*), Quaking-grass (*Briza media*), Purple Moor-grass (*Molinia caerulea*), fescue (*Festuca* sp.), Devil's-bit Scabious (*Succisa pratensis*), Juniper, Tormentil (*Potentilla erecta*), Wood Sage *Teucrium scorodonia*), Cat's-ear (*Hypochoeris radicata*), St. John's-wort (*Hypericum* sp.), eyebrights (*Euphrasia* spp.), Common Knapweed (*Centaurea nigra*), Meadow Vetchling (*Lathyrus pratensis*), Lady's Bedstraw (*Galium verum*), Goldenrod (*Solidago virgaurea*), Wild Strawberry (*Fragaria vesca*), Harebell (*Campanula rotundifolia*) and Wild Madder (*Rubia peregrina*). There are numerous ant hills which are characterised by the presence of Wild Thyme and Fairy Flax (*Linum catharticum*). The heath appears to be under-grazed and scrub is invading. However, there are signs of goats present (droppings and skull noted).

The grassland is dominated by Blue Moor-grass, with many of the same species present as in the heath, but with additional species such as Mountain Everlasting(*Antennaria dioica*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Primrose (*Primula vulgaris*), Ribwort Plantain (*Plantago lanceolata*), violet (*Viola* sp). On the eastern side the land is grazed by cattle and here there are additional species such as Oxeye Daisy (*Leucanthemum vulgare*), Red Clover (*Trifolium pratense*), Yarrow (*Achillea millefolium*) and Wild Carrot (*Daucus carota*). Juniper is particularly abundant here, especially on the area sloping to the bog and this is likely to correspond to the E.U. Habitats Directive category 'Juniper formations'. Small wet patches also occur here with fen species, e.g. Lesser Spearwort (*Ranunculus flammula*), Water Mint (*Mentha aquatica*), and Silverweed (*Potentilla anserina*). Where the habitats grade into peatland, Purple Moor-grass, Grass-of-parnassus (*Parnassia palustris*), Meadow Thistle (*Cirsium dissectum*), Black Bog-rush (*Schoenus nigricans*) and Bog Asphodel (*Narthecium ossifragum*) occur, and this community grades into cut-away blanket-bog type vegetation.

There is a large area of oak-Ash-Hazel woodland and scrub on rocky limestone on the south side of the site. Small stature Hazel dominates the woodland canopy, overtopped frequently by Ash. Mature Hawthorn (*Crataegus monogyna*) is abundant. The field layer is particularly species-rich, composed chiefly of Wild Strawberry*,* Wood Anemone (*Anemone nemorosa*)*,* Lords-and-ladies (*Arum maculatum*)*,* Pignut (*Conopodium majus*)*,* Wood-sorrel (*Oxalis acetosella*)*,* Lesser Celandine (*Ranunculus ficaria*)*,* Glaucous Sedge (*Carex flacca*) and False Brome (*Brachypodium sylvaticum*). The rocks are covered mainly by the mosses *Hylocomium brevirostre* and *Thuidium tamariscinum*. *Rhytidiadelphus triquetrus* is abundant on the soil whilst *Neckera crispa* clothes many of the tree boles.

An area of cut-away bog to the east contrasts with the limestone habitats dominating the rest of the site. This is the only known locality for the endemic fungus *Entoloma jennyi*.

The main land use on the site is extensive grazing by cattle and goats. Threats to the site include over-grazing, land reclamation and quarrying, the latter two already occurring to a small extent within the site.

Gortnandarragh is valuable as an example of limestone pavement, an internationally important habitat which is listed with priority status, on Annex I of the E.U. Habitats Directive. It is also notable because the bog on the site is the type locality and only known station for *Entoloma jennyi*. Furthermore, there are interesting and diverse areas of heath, grassland, scrub and woodland, all contributing to a valuable site of considerable conservation interest. (*Antennaria dioica*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Primrose (*Primula vulgaris*), Ribwort Plantain (*Plantago lanceolata*), violet (*Viola* sp). On the eastern side the land is grazed by cattle and here there are additional species such as Oxeye Daisy (*Leucanthemum vulgare*), Red Clover (*Trifolium pratense*), Yarrow (*Achillea millefolium*) and Wild Carrot (*Daucus carota*). Juniper is particularly abundant here, especially on the area sloping to the bog and this is likely to correspond to the E.U. Habitats Directive category 'Juniper formations'. Small wet patches also occur here with fen species, e.g. Lesser Spearwort (*Ranunculus flammula*), Water Mint (*Mentha aquatica*), and Silverweed (*Potentilla anserina*). Where the habitats grade into peatland, Purple Moor-grass, Grass-of-parnassus (*Parnassia palustris*), Meadow Thistle (*Cirsium dissectum*), Black Bog-rush (*Schoenus nigricans*) and Bog Asphodel (*Narthecium ossifragum*) occur, and this community grades into cut-away blanket-bog type vegetation.

There is a large area of oak-Ash-Hazel woodland and scrub on rocky limestone on the south side of the site. Small stature Hazel dominates the woodland canopy, overtopped frequently by Ash. Mature Hawthorn (*Crataegus monogyna*) is abundant. The field layer is particularly species-rich, composed chiefly of Wild Strawberry*,* Wood Anemone (*Anemone nemorosa*)*,* Lords-and-ladies (*Arum maculatum*)*,* Pignut (*Conopodium majus*)*,* Wood-sorrel (*Oxalis acetosella*)*,* Lesser Celandine (*Ranunculus ficaria*)*,* Glaucous Sedge (*Carex flacca*) and False Brome (*Brachypodium sylvaticum*). The rocks are covered mainly by the mosses *Hylocomium brevirostre* and *Thuidium tamariscinum*. *Rhytidiadelphus triquetrus* is abundant on the soil whilst *Neckera crispa* clothes many of the tree boles.

An area of cut-away bog to the east contrasts with the limestone habitats dominating the rest of the site. This is the only known locality for the endemic fungus *Entoloma jennyi*.

The main land use on the site is extensive grazing by cattle and goats. Threats to the site include over-grazing, land reclamation and quarrying, the latter two already occurring to a small extent within the site.

Gortnandarragh is valuable as an example of limestone pavement, an internationally important habitat which is listed with priority status, on Annex I of the E.U. Habitats Directive. It is also notable because the bog on the site is the type locality and only known station for *Entoloma jennyi*. Furthermore, there are interesting and diverse areas of heath, grassland, scrub and woodland, all contributing to a valuable site of considerable conservation interest.

Site Name: Ross Lake and Woods SAC

Site Code: 001312

Ross Lake and Woods is located approximately 4 km north-west of Moycullen on the west side of Lough Corrib in Co. Galway. The area is underlain by limestone.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3140] Hard Water Lakes

[1303] Lesser Horseshoe Bat (*Rhinolophus hipposideros*)

The main habitat on the site is a medium-sized lake, Ross Lake, which has a limestone bed covered by deposits of precipitated marl and a shoreline of marl-encrusted limestone boulders. It is a good example of a hard water lake, and supports beds of stoneworts, including *Chara globularis* var. *virgata, C. pedunculata* and *C. curta*. The last two species in particular are characteristic of marl lakes. The open water also supports Yellow Water-lily (*Nuphar lutea*) and Broad-leaved Pondweed (*Potamogeton natans*). Most of the shoreline is fringed by wetland vegetation of reedswamp, freshwater marsh, fen, wet woodland and wet grassland. Reedswamp vegetation is dominated by Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*), with Great Fen-sedge (*Cladium mariscus*) also occurring. The rocky limestone shore mostly supports fen-type vegetation characterised by Black Bog-rush (*Schoenus nigricans*). This grades into areas of wet grassland dominated by Purple Moor-grass (*Molinia caerulea*) and species-rich marsh, characterised by species such as Slender Sedge (*Carex lasiocarpa*), Marsh Pennywort (*Hydrocotyle vulgaris*) and Water Mint (*Mentha aquatica*). Also found around the lake edge is well-developed wet woodland, with Alder (*Alnus glutinosa*) and willows (*Salix* spp.) occurring commonly, accompanied by Spindle (*Euonymus europaeus*), Buckthorn (*Rhamnus catharticus*), Guelder-rose (*Viburnum opulus*) and Bog-myrtle (*Myrica gale*).

A small lake, Lough Parkyflaherty, is separated from the main lake by an overgrown railway embankment. The site contains a large block of coniferous plantation, consisting largely of spruce (*Picea* sp.) and larch (*Larix* sp.) species, on the site of a former mixed-deciduous woodland, Annagh Wood. There are also areas of broadleaved woodland and scrub, dominated variously by Beech (*Fagus sylvatica*), Ash (*Fraxinus excelsior*) or Hazel (*Corylus avellana*).A breeding colony (not less than 155 individuals counted in 1994) of Lesser Horseshoe Bat occurs in an out-building beside Ross House. This species is threatened within the EU and the population at this site is rated of international importance. The woodlands and lakeside vegetation on the site provide foraging habitat within a small radius of the roost site. The woodlands in particular are very important to this species in providing shelter to reach foraging habitats and seasonal roosts as it does not fly across open areas. The presence on the site of Otter, a species also listed on Annex II of the E.U. Habitats Directive, and of a small colony of Common Gull (10 individuals breeding in 1992) is notable.

The main land uses within the site are angling, commercial forestry, and grazing of the woodland and wetland areas. The site is of importance because it contains a good example of a hard water lake, a habitat listed on Annex I of the E.U. Habitats Directive, and for the internationally important population of Lesser Horseshoe Bat, a species listed on Annex II of this Directive, which occurs. The presence of Otter and breeding Common Gull is also of note.

Site Name: Rostaff Turlough

Site Code: 000385

Rostaff Turlough is located approximately 2km. north-west of Headford, beside Ross Abbey. The Black River flows through the site, which is situated in a limestone area. The main habitats within the site are improved grassland and turlough.

The interest of the site is zoological, mainly wintering waterfowl. Two species with nationally important numbers occur: Greenland White-fronted Geese (average peak 83, absolute maximum 88, 1982/83 - 1991/92) and Shoveler (average peak 70, 1984/85 - 1986/87). Species with regionally/locally important numbers are Wigeon (300), Teal (20), Mallard (89), Golden Plover (350), Lapwing (453), Dunlin (37) and Curlew (173) (numbers are average peaks over 3 seasons 1984/85 - 1986/87). Whooper Swans occasionally use the site, with up to 37 in November 1984. Species breeding at the site are Ringed Plover, Snipe, Tufted Duck, Pochard, Grey Heron and Redshank. One Peregrine Falcon has used the site as a winter residence over a number of years.

The importance of Rostaff Turlough is primarily ornithological with nationally important numbers of Greenland White-fronted Geese and Shoveler. The site also has a number of notable populations of breeding birds. The site is a bird sanctuary.

Site Name: Lough Corrib
Site Code: 000297

Same as Lough Corrib SPA

Site Name: Lough Hacket
Site Code: 001294

Lough Hacket is located 4.5km. east north-east of Headford. This small lake is situated in an area where the underlying geology is carboniferous limestone.
The main habitat of this site is the lake itself, which is surrounded to the west by reedswamp, areas of fresh water marsh as well as lowland wet grassland. The eastern side of the lake has improved grassland. A small island occurs in the lake.
The site was noted in 1971 (AFF County Report) as an area of ornithological importance for wintering wildfowl. Sheppard (1993) lists the site as being of regional/local importance. Wigeon (40), Pochard (110), Tufted Duck (10), Golden Plover (20), Lapwing (150) and Curlew (150) (1 Count, Sheppard 1993) occur. The lake island has a few pairs of breeding grey herons and cormorants (Ranger report). This site holds a wintering population of Golden Plover, a species listed in Annex 1 of the E.U. Birds Directive and in the Red Data Book as being threatened in Ireland. This site is of interest as an important site for wintering wildfowl.

Site Name: Turloughcor
Site Code: 001788

Turloughcor is located approximately 5km south-east of Headford, Co. Galway in a lowland karstic limestone area. A small lake, Doolough is the centre of the site, surrounded by a large area which was liable to flooding in the past. Due to extensive drainage, most of the ara no longer floods. There are still some small areas to the north-east of the lake which flood, along natural springs. The dominant habitat in the area is improved grassland, with no plant species of importance being noted.
The main secondary habitats at this site are water bodies, rivers, streams and drainage channels. Some inland wet and dry grassland occur, along with small amounts of scrub and limestone pavement.
The main interest of this site is ornithological. In excess of 500 Wigeon graze the grassland around the turlough, with lesser numbers of Teal and Mallard. Greenland White-Fronted Geese do not use the site anymore. Mute Swans (2), Mallard and Lapwing breed at the site.
Drainage is the main damaging operation affecting this site. It has already considerably lowered the scientific value of the turlough. Fertilization of the surrounding grassland is also a problem. Black River and District Gun Club manage the shooting on the turlough and have had a Mallard-release programme over the last few years.
Turloughcor is a locally important site, which would be of more importance if drainage and fertilization were controlled.

Site Name: Turlough Monaghan
Site Code: 001322

Turlough Monaghan is situated just to the north of Fearagha.
It has a flat floor in most places apart from a rocky rise that projects from the south-west side. The north-east edge is marked by level beds of outcropping limestone which rise about 8 km above the basin. The turlough seems to flood regularly but is relatively shallow.

The two ponds in the lower parts of the floor resemble each other in having a central area of Broad-leaved Pondweed (Potamogeton natans) and Small Pondweed (Potamogeton berchtoldii) surrounded by weedy species. Creeping Cinquefoil (Potentilla reptans) is widespread but the vegetation structure is modified by grazing pressure.
A depression at the northern end carries Common Sedge (Carex nigra), which changes to marginal communities as the land rises. A similar rise in the south is colonised by a heathy vegetation with a considerable amount of Purple Moor-grass (Molinia caerulea). The soils are thin there and rock breaks through in places.
More definite outcrop on the eastern side bears some Blackthorn (Prunus spinosa) scrub centrally, while at the edge the pavement is sometimes flooded - Yellow-rattle
(Rhinanthus minor), Buckthorn (Rhamnus catharticus),
Quaking-grass (Briza media) and Tawny Sedge (Carex hostiana) are frequent, with both Rough Hawkbit (Leontodon hispidus) and Lesser Hawkbit (Leontodon taraxacoides).
Flocks of Lapwing have been recorded at the turlough.
The turlough is basically a dry one with little physical variation except for the outcrops of bedrock. The vegetation, however, is quite diverse, with ten community types in a relatively small area. The site is of local scientific and conservation value.

Site Name: Turlough O'Gall

Site Code: 000331

Turlough O'Gall lies between Shrule and Tuam, approximately 3 km west of Belclare. The surrounding countryside is very flat, but the turlough can be viewed from the Knockmaa ridge to the south. The floor of the basin, particularly in the east, is uneven because of bedrock. To the west there is a large expanse of level ground on limestone, which ocassionally outcrops. The turlough is a dry one, and the arterial drainage of the Clare river is believed to curtail flooding.
Apart from the vicinity of the ponds, the southern half of the turlough has a simple vegetation structure made up mainly of limestone grassland, with prominent Mat-grass (Nardus stricta). There is a little scrub invasion with Hawthorn (Crataegus monogyna) bushes present.
Towards the north of the site the vegetation is more complex as this area is prone to fluctuations in water level. Creeping Cinquefoil (Potentilla reptans) is widely spread, but there are also sedges and grasses. Above this is an area of unmanaged grassland with Tufted Hair-grass (Deschampsia cespitosa), Purple Moor-grass (Molinia caerulea) and Sea Plantain (Plantago maritima) amongst Willow (Salix repens) and Buckthorn (Rhamnus catharticus).
The three depressions on the floor of the turlough are ringed by Common Sedge (Carex nigra). The pools themselves contain Pondweeds (Potamogeton spp.) and Bogbean (Mentanthes trifoliata). Typical fen vegetation surrounds these pools.
The area is used for grazing by some cattle, but predominantly sheep.
Turlough O'Gall is distinct in vegetational terms in having large areas of both sedge heath and limestone grassland - the rock outcrops and pools add habitat diversity. Its unmodified drainage adds to its conservation value.

Site Name: Knockmaa Hill

Site Code: 001288

Knockmaa hill is a prominent limestone Knoll located 10 km west of Tuam. The surrounding countryside consists of good quality, pastoral farmland on limestone. The hill itself is 180m high and is covered with deciduous woodland. Towards the summit of the hill there is an area of limestone pavement and heath.
The main tree species in the woodland are Ash (Fraxinus excelsior) and Oak (Quercus sp.) and the associated ground flora is species-rich. There is some Alder (Alnus glutinosa) in wetter seepage areas and close to the summit, thee is an area of dwarf Oak (Quercus sp.) woodland on thin soils. The wood contains numerous exotic tree species including Beech (Fagus sylvatica), Sycamore (Acer pseudoplatanus), Cherry Laurel (Prunus lauroceracus), Larch (Larix spp.) and Pine (Pinus spp.). Of these, only Beech and Sycamore are regenerating.

At the top of the hill there is an area of limestone pavement which supports a species-rich, Burren-type, flora with some small areas of heath.
Despite the incidence of tree felling in the past, the site is still of interest because it is a good example of deciduous woodland on thin limestone soil. Similar sites are rare in this part of the country. The occurrence of species-rich limestone pavement vegetation at the top of the hill adds significantly to the interest of the site.

Site Name: Killower Turlough

Site Code: 000282

Killower Turlough is located approximately 5km west of Tuam, Co. Galway. It is part of the River Clare group of turloughs, which also includes Belclare Turlough just to the south of the site. It is situated in an area of carboniferous limestone, with large amounts of Marl underlying thin soils. The main habitats are the turlough itself, as well as lowland grassland, wet, dry and improved, heath and reedswamp.
Due to the Corrib Drainage schemes of the 1960's, the total flooding area has decreased, and a large part of the original site is now improved grassland.
The main interest of this site is ornithological. It is part of the North East Galway identified by Sheppard (1993) and is of local or regional importance for 14 species of waterfowl, including Whooper Swan and Greenland White-fronted Goose. These two species are listed in Annex 1 of the Habitats Directive.
The damage of this site to date has been caused by drainage and the subsequent improvement of land. This continues to be the only apparent threat to the site, since the soil is of such poor quality that a forestry application was turned down. The designation of this site as an NHA rests purely on its regional importance for waterfowl.

Site Name: Rathbaun Turlough

Site Code: 000215

Rathbaun turlough occupies a well defined, rectangularly-shaped basin in low-lying countryside halfway between Tuam, Co. Galway and Ballinrobe, Co. Mayo.
A river flows into the turlough from the north and the turlough is drained by a swallow hole to the west, near a temporary lake. The drainage into the bedrock has been altered by human interference, which results in abandoned channels and piles of debris.
The turlough seems drier than it would naturally be, and as a result there is little likelihood of peat formation at the present time.
Rathbaun turlough has a simple topography and the associated vegetation follows its contours in a fairly regular way. The uppermost zone is predominantly sedge/ heath grassland with dry grassland associated with the limestone rock outcrops at the northern end. As the slope lessens, wet grassland predominates, and rushes are common in the hollows that retain dampness the longest.
Grazing and trampling by cattle and sheep is common, and leads to a breakdown of the vegetation structure. Despite this, and although the hydrology of the basin has been altered from its natural state, the size and character of the turlough is noteworthy.
At present, the turlough is too dry and heavily grazed for a full development of its potential vegetation, or for the breeding of birds. But the nature of its drainage would make it possible for its water levels to be managed. However, because of its physical uniformity, the site contains large areas of three plant communities: the largest stand of the Dry Carex nigra community, the third largest of species poor Potentilla repens community and a stand of Wet Annuals which contains both Red Goosefoot (Chenopodium rubrum) and Northern Yellow-cress (Rorippa islandica), two rare plant species. The site is therefore worthy of NH status.

Site Name: Gortnandarragh Limestone Pavement

Site Code: 001271

Gortnandarragh Limestone Pavement is located on the southern side of Lough Corrib, about 7 km south-east of Oughterard. The site consists of an exposed limestone plateau flanked with scrub. Parts of the

pavement exhibit a well-developed system of clints and grykes, while other parts are shattered, with much loose rock. The limestone pavement supports a typical flora, including Blue Moor-grass (Sesleria albicans), Burnet Rose (Rosa pimpinellifolia), Wood Sage (Teucrium scorodonia), Wild Thyme (Thymus praecox), Spring Gentian (Gentiana verna) and ferns (Asplenium ruta-muraria, A. trichomanes and Ceterach officinarum). Hazel (Corylus avellana) is the dominant species of the scrub, although Ash (Fraxinus excelsior) and Goat Willow (Salix caprea) are also common. The well-developed ground flora includes Enchanter's-nightshade (Circaea lutetiana), Wood Sorrel (Oxalis acetosella), False Brome (Brachypodium sylvaticum) and Broad-leaved Helleborine (Epipactis helleborine). An area of cutaway bog to the east contrasts with the limestone habitats dominating the rest of the site. This is the only known station for the endemic fungus Entoloma jennyi. The main landuse is extensive grazing by cattle and goats. Threats to the site include overgrazing, land reclamation and quarrying, the latter two already occurring to a small extent within the site. Gortnandarragh is valuable as an example of limestone pavement, an internationally important habitat which is listed, with priority status, on Annex I of the EU Habitats Directive, and because the bog on the site is the type locality and only known station for Entoloma jennyi

Site Name: Ross Lake and Woods

Site Code: 001312

Ross Lake and Woods is located approximately 4 km north-west of Moycullen on the west side of Lough Corrib in Co. Galway. The area is underlain by limestone. The main habitat on the site is a medium-sized lake, Ross Lake, which has a limestone bed covered by deposits of precipitated marl and a shoreline of marl-encrusted limestone boulders. It is a good example of a hard water lake, a habitat listed on Annex I of the EU Habitats Directive, and supports beds of stoneworts, including Chara globularis var. virgata, C. pedunculata and C. curta. The last two species in particular are characteristic of marl lakes. The open water also supports Yellow Water-lily (Nuphar lutea) and Broad-leaved Pondweed (Potamogeton natans). Most of the shoreline is fringed by wetland vegetation of reedswamp, freshwater marsh, fen, wet woodland and wet grassland. Reedswamp vegetation is dominated by Common Reed (Phragmites australis) and Common Club-rush (Scirpus lacustris), with Great Fen-sedge (Cladium mariscus) also occurring. The rocky limestone shore mostly supports fen-type vegetation characterised by Black Bog-rush (Schoenus nigricans). This grades into areas of wet grassland dominated by Purple Moor-grass (Molinia caerulea) and species-rich marsh, characterised by species such as Slender Sedge (Carex lasiocarpa), Marsh Pennywort (Hydrocotyle vulgaris) and Water Mint (Mentha aquatica). Also found around the lake edge is well-developed wet woodland, with Alder (Alnus glutinosa) and Willows (Salix spp.) occurring commonly, accompanied by Spindle (Euonymus europaeus), Buckthorn (Rhamnus catharticus), Guelder-rose (Viburnum opulus) and Bog-myrtle (Myrica gale). A small lake, Lough Parkyflaherty, is separated from the main lake by an overgrown railway embankment. The site contains a large block of coniferous plantation, consisting largely of Spruce (Picea) and Larch (Larix) species, on the site of a former mixed-deciduous woodland, Annagh Wood. There are also areas of broadleaved woodland and scrub, dominated variously by Beech (Fagus sylvatica), Ash (Fraxinus excelsior) or Hazel (Corylus avellana). A breeding colony (not less than 155 individuals counted in 1994) of Lesser Horseshoe Bat (Rhinolophus hipposideros) occurs in an outbuilding beside Ross House. This species is threatened within the EU and consequently listed on Annex II of the EU Habitats Directive; the population at the site is rated as of international importance. The woodlands and lakeside vegetation on the site provide foraging habitat within a small radius of the roost site; the woodlands are very important to this species, which does not fly across open areas, by providing shelter to reach foraging habitats and seasonal roosts. The presence on the site of Otter, a species also listed on Annex II of the EU Habitats Directive, and of a small colony of Common Gull (10 individuals breeding in 1992) is notable. The main landuses within the site are angling, commercial forestry, and grazing of the woodlands and wetland areas. The site is of importance because it contains a good example of a hard water lake, a habitat listed on Annex I of the EU Habitats Directive, and for an internationally important population of Lesser Horseshoe Bat, a species listed on Annex II of this directive. The occurrence of Otter and breeding Common Gull is also of note.

Site Name: Drimcong Wood

Site Code: 001260

Drimcong Wood is situated approximately l.5km. north-east of Moycullen, Co. Galway, in a limestone region. It is a mixture of deciduous and coniferous woodland.

The main habitat is deciduous woodland, with Ash (Fraxinus excelsior) and Birch (Betula pubescens) common, at least on the fringes. Coniferous woodland, with sitka spruce (Picea sitchensis) is also frequent. Two lakes are included in part in the site, Lough Aroraun and Lough Pollalehy, leading to the inclusion of an area of reedswamp (Phragmites australis - dominated) in the site.

The 1971 AFF County Report notes that part of the site is used as a deer forest.

The main damaging operations and threats within the site are afforestation and mineral extraction. A new road has been built to access a recently purchased area in the south-east of the site. The intention is to resume quarrying. An application has also been made to the Local Planning Authority to develop the area as an amenity park and motor sport facilities complex.

The scarcity of woodland in the west of Ireland in particular, as well as the good range of habitats, justifies the designation of thee site as a N.H.A.

Site Name: Ballycuirke Lough

Site Code: 000228

The Ballycuirke Lough site includes Lough Kip, the Loughkip River and Ballycuirke Lough itself and is situated 2-5 km south of Moycullen. Lough Kip and Loughkip River lie on acidic granite rocks and receive water from surrounding blanket bog peat. The eastern shore of Ballycuirke Lough is on limestone. The freshwater algae and invertebrates along the river and in Ballycuirke Lough are reported to be of interest (An Foras Forbartha 1971). Herring Gulls and Common Gulls (20 pairs) are reported to nest on rocky islets in Ballycuirke Lough (Lloyd, 1982).

Appendix B

European (Natura 2000) Sites with Linkages to the Headford Local Area Plan

Natura 2000 Site	Qualifying Interests	Threats	Sensitivities	Distance from Headford LAP Boundary & Pathways	Potential Impacts from Plan	Impact Avoidance Measures
The River Corrib SAC(000297)	[3110] Oligotrophic Waters containing very few minerals	Surface water pollution from forestry, agriculture, industry, domestic waste water. Ground water extraction. Peat extraction. Drainage. Invasive species, sport and leisure activities.	Surface water dependant. Nutrient enrichment. Acidification.	3.0KM Hydrological links via the Headford River and Black River (outside of plan area) to Lough Corrib. It is possible that otters may travel between Lough Corrib and the Headford River. Headford and Black Rivers and associated streams are nurseries for fish species important to Lough Corrib. Birds or LH bats may fly over or close to the plan area	**Policies** RD2, RD1, UI1, UI2, EC1, and **Objectives** DS6, LU1, LU2, LU3, LU4, LU5, LU6, LU7, LU8 RD8, RD9, RD10, CF1, CF2, CF3, CF4, CF6, CF7, CF8, CF9, ED1, ED2, ED3, ED5, ED6, ED7, ST1, ST2, ST3, ST4, TI3, TI4, TI11, TI12, TI14, TI15, TI16, TI17, TI19, UI1, UI2, WM2, EC1, EC2, EC4, UD4, have been identified as having the **potential** to impact on air and water quality and protected species.	**Policies NH1,** and **Objectives** DS3, NH1, NH2, NH4 **s**pecifically ensure that development or activities from the plan can only proceed in compliance with the Birds and Habitats Directive. All projects or plans for the area will be subject to AA screening **Policies** RD1, RD2, WQ1, ENV1, FL1, WM1, WM2 **DM Guidelines** WQ1 and **Objectives** DS7, DS8, LU5, LU8, LU9, LUD1, LUD2, RD1, ST1, ST2, ST3, ST4, WQ1, WQ2, FL1, FL2, FL3, FL4, FL5, FL6, FL7, NH3, NH4, NH6, require that all developments and activities under the plan are compliant
	[3140] Hard Water Lakes	Surface water pollution and ground water pollution from forestry, agriculture, industry, domestic waste water. Invasive species	Surface and ground water dependant. Hydrological changes, nutrient enrichment.			
	[3260] Floating River Vegetation	Surface water pollution due to agriculture, forestry and industry. Peat extraction. Hydrographic modification, overgrazing	Hydrological changes, nutrient enrichment.			
	[6210] Orchid-rich Calcareous Grassland*	Over grazing, under grazing. Land abandonment. Scrub encroachment Agricultural intensification (land improvement). Fertilisation.	Changes in management (grazing regimes). Nutrient enrichment.			
	[6410] Molinia Meadows	Under grazing, abandonment, scrub encroachment, ground water abstraction, overgrazing, invasive native weeds, drainage	Changes in management. Sensitive to hydrological changes.			
	[7110] Raised Bog (Active)*	Groundwater abstraction. Peat extraction. Forestry planting. Burning. drainage	Extremely sensitive to hydrological changes.			
	[7120] Degraded Raised Bog	Groundwater abstraction. Peat extraction. Forestry planting. Burning. drainage	Extremely sensitive to hydrological changes.			

	[7150] Rhynchosporion Vegetation	Grazing. Peat extraction. Forestry planting. Burning. drainage	Highly sensitive to hydrological changes.			with all relevant legislation and statutory guidelines and abide by principles of proper planning compatible with biodiversity and environmental considerations provides a safeguard for Natura habitats and species. **Policies** UI1, WQ1, FL1, **DM Guidelines** WQ1 and **Objectives** DS5, DS7, TI7, UI3, UI4, UI5, WQ1, WQ2, ENV3, ENV4, FL1, FL2, FL7, FL9, FL11, NH5, NH6, NH7, NH8, ensure that no negative impacts occur due to reduced air or water quality Objectives NH2, NH3, NH5, NH12 ensure consideration for all protected habitats and species in developments and activities in the plan. **Objectives** RD10,
	[7210] Cladium Fens*	Water abstraction, land reclamation, peat extraction, forestry, surface water pollution, invasive species, infilling.	Changes in hydrology – groundwater dependant. Sensitive to nutrient enrichment and changes in base status.			
	[7220] Petrifying Springs*	Land reclamation. Peat extraction. Drainage. Over grazing. Ground water abstraction. Land abandonment. Surface water pollution from agriculture and forestry. Road construction. Trampling/overuse from leisure pursuits	Ground and surface water dependant. Extremely sensitive to hydrological changes and nutrient enrichment. Very sensitive to changes in base status.			
	[7230] Alkaline Fens	Ground water and surface water abstraction. Land reclamation. Surface and Ground water pollution from agriculture and forestry. Land abandonment. Forestry planting. Agricultural intensification. Invasive species. Drainage. Changes in precipitation patterns (climate change)	Ground and surface water dependant. Extremely sensitive to hydrological changes and nutrient enrichment. Very sensitive to changes in base status.			
	[8240] Limestone Pavement*	Quarrying, landfill, land reclamation, lack of grazing, over grazing,				
	[91A0] Old Oak Woodlands	Invasive native weed species. Invasive alien species. Grazing (deer).				
	[91D0] Bog Woodland*	Peat extraction, drainage	Very specific hydrological conditions are required both for the			

			initiation and maintenance of this habitat.			RD12, ENV2, UD4, NH5, NH9, NH10, NH11, And **DM Guideline** NH1 Protect biodiversity and natural heritage features in general.
	[1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)	Ground and surface water abstraction. Surface water pollution from agriculture, forestry, industry and domestic waste water sources. Erosion, drainage, land modifications causing sedimentation	Sedimentation. Extremely sensitive to nutrient enrichment. Dependant on salmonid host for larval stage.			
	[1092] White-clawed Crayfish (Austropotamobius pallipes)	Invasive species. Introduced diseases. River maintenance works.	Sensitive to some pesticides and organic compounds. Highly vulnerable to fungal disease carried by several American species of crayfish.			
	[1095] Sea Lamprey (Petromyzon marinus)	Barriers to migration (weirs etc). River channel maintenance. Surface water pollution. Bait digging and collection. Canalisation.	Vulnerable to water pollution.			
	[1096] Brook Lamprey (Lampetra planeri)	River channel maintenance. Dredging. Surface water pollution due to agriculture and forestry. Bait digging and collection. Invasive molluscs such as Corbicula and Dreissena.	Changes in siltation patterns. Vulnerable to water pollution.			
	[1106] Atlantic Salmon (*Salmo salar*)	Agricultural intensification. Forestry planting. Waste disposal (commercial, industrial, domestic). Fish farming. Poaching. Surface water pollution from agriculture and forestry and domestic waste water. Water abstraction. Predation	Dependant on good water quality. Good quality spawning grounds. Barriers to migration.			
	[1303] Lesser Horseshoe Bat	Removal of hedges, woods and scrub. Forestry	Specific roosting habitat			

	(*Rhinolophus hipposideros*)	plantation and management. Demolition, dereliction of old buildings. reconstruction, renovation of buildings. Light pollution. Flooding.	requirements. Connectivity between roosting and foraging areas. Adequate, suitable foraging sites within reasonable proximity. Disturbance by human development.			
	[1355] Otter (*Lutra lutra*)	Road accidents. Surface water pollution affecting prey. Drainage. Development in riparian areas. Entanglement in fishing nets and pots.	Water quality. Disturbance/damage to riparian vegetation.			
	[1393] Slender Green Feather-moss (*Drepanocladus vernicosus*)	National population not threatened. Local populations vulnerable to peat excavation, drainage, water abstraction, ground and surface water pollution from agriculture and forestry. Forestry plantation.	Nutrient enrichment. Base sensitive. Hydrological conditions.			
	[1833] Slender Naiad (*Najas flexilis*)	Surface water pollution from agriculture, forestry and domestic waste water sources. Ground water abstraction. Invasive species.	Nutrient enrichment. Acidification. Water clarity. Water depth.			
The River Corrib SPA (004042)	Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395] Gadwall (*Anas strepera*) [A051] Shoveler (*Anas clypeata*) [A056]	* Loss of or damage to wetland sites associated with development for industry, housing, infrastructure, sewage works and aquaculture. Disturbance due to recreational activity. Hunting. Pollution of habitat from a range of sources. Climate change	Habitat loss, degradation, fragmentation. Nutrient enrichment. Noise, light, human activity (disturbance).	3.0KM Hydrological links via the Headford River and Black River (outside of plan area) to Lough Corrib. It is possible that otters may travel between Lough Corrib and the	**As Above**	**As Above**

	Pochard (*Aythya ferina*) [A059] Tufted Duck (*Aythya fuligula*) [A061] Common Scoter (*Melanitta nigra*) [A065] Hen Harrier (*Circus cyaneus*) [A082] Coot (*Fulica atra*) [A125] Golden Plover (*Pluvialis apricaria*) [A140] Black-headed Gull (*Chroicocephalus ridibundus*) [A179] Common Gull (*Larus canus*) [A182] Common Tern (*Sterna hirundo*) [A193] Arctic Tern (*Sterna paradisaea*) [A194] Wetlands			Headford River. Headford River and associated streams are nurseries for fish species important to Lough Corrib. Birds or LH bats may fly over or close to the plan area. Bats may hibernate in or near plan area.		
Cloughmoyne SAC(000479)	[8240] Limestone Pavement*	Quarrying, landfill, land reclamation, lack of grazing, over grazing,	Change of management, land take	3.5KM No direct pathway	**As Above**	**As Above**
Mocorha Lough SAC(00153)	Calcareous fens with Cladium mariscus and	Water abstraction, land reclamation, peat extraction, forestry, surface water	Changes in hydrology – groundwater	7.2KM Possible groundwater	**As Above**	**As Above**

	species of the Caricion davallianae [7210	pollution, invasive species, infilling.	dependant. Sensitive to nutrient enrichment and changes in base status	hydrological pathway but distance makes it not significant		
Shrule Turlough SAC (000525)	Turloughs [3180]	Nutrient enrichment due to forestry and agriculture. Inappropriate grazing regimes. Drainage. Infilling.	Groundwater and surface water dependant. Changes in land management. Pollution.	5.6KM Possible groundwater hydrological pathway but distance and direction make it not significant	**As Above**	**As Above**
Clyard Kettle-holes SAC(000480)	Turloughs [3180]	Nutrient enrichment due to forestry and agriculture. Inappropriate grazing regimes. Drainage. Infilling.	Groundwater and surface water dependant. Changes in land management. Pollution.	11.1KM Possible groundwater hydrological pathway but distance makes it not significant.	**As Above**	**As Above**
	Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]	Water abstraction, land reclamation, peat extraction, forestry, surface water pollution, invasive species, infilling.				
Ardkill Turlough SAC (000461)	Turloughs [3180]*	Nutrient enrichment due to forestry and agriculture. Inappropriate grazing regimes. Drainage. Infilling.	Groundwater and surface water dependant. Changes in land management. Pollution.	14.1KM Possible groundwater hydrological pathway but distance makes it not significant.	**As Above**	**As Above**
Skealoghan Turlough SAC (000541)	Turloughs [3180]*	Nutrient enrichment due to forestry and agriculture. Inappropriate grazing regimes. Drainage. Infilling.	Groundwater and surface water dependant. Changes in land management. Pollution.	14.4KM Possible groundwater hydrological pathway but distance makes it not significant.	**As Above**	**As Above**
Greaghans Turlough SAC (000503)	Turloughs [3180]*	Nutrient enrichment due to forestry and agriculture. Inappropriate grazing regimes. Drainage. Infilling.	Groundwater and surface water dependant. Changes in land	14.5KM Possible groundwater hydrological pathway	**As Above**	**As Above**

			management. Pollution.	but distance makes it not significant.		
Gortnandarragh Limestone Pavement SAC (001271)	Limestone pavements [8240]*	Quarrying, landfill, land reclamation, lack of grazing, and over grazing.	Change of management, land takes.	7.7KM On far side of Lough Corrib No direct pathways.	**As Above**	**As Above**
Ross Lake and Woods SAC(001312)	[3140] Hard Water Lakes	Surface water pollution and ground water pollution from forestry, agriculture, industry, and domestic waste water. Invasive species.	Surface and ground water dependant. Nutrient enrichment, change in base status.	11.5KM on far side of Lough Corrib. Bats may hibernate in or near plan area.	**As Above**	**As Above**
	[1303] Lesser Horseshoe Bat (Rhinolophus hipposideros)	Removal of hedges, woods and scrub. Forestry plantation and management. Demolition, dereliction of old buildings. reconstruction, renovation of buildings. Light pollution. Flooding.	Specific roosting habitat requirements. Connectivity between roosting and foraging areas. Adequate, suitable foraging sites within reasonable proximity. Disturbance by human development.			

Appendix C
Planning Permissions Granted in Headford

File Number	Description	Grant Date
10-676	To construct a serviced dwelling house, domestic garage, effluent treatment system and raised soil percolation area (gross floor space house 318sqm garage 60sqm). McDonnell, Padraic.	**01/07/2010**
14-59	Extension of existing clubhouse and dressing rooms with associated services. (109.52sqm). F.C, Moyne Villa.	**19/03/2014**
12-1341	For amendments to the permitted redevelopment of the supermarket/superstore at Church Road and Galway Road (granted planning reference no. 10/66). The proposed amendments comprise changes to internal layout within the permitted building footprint (Joyces Supermarkets Limited,	**02/01/2013**
12-1135	For construction of a residential/commercial development for 77 units comprising of the following 1) 5 no. commercial units 2) 1 no. creche facility 3) 71 dwelling units comprising of a) 24 no. semi detached houses b) 2 no. detached houses c) 1 no. Newell Construction Ltd (in receivership),	**05/11/2012**
1193	To construct a children's community playground including approved playing surface, playground equipment, fencing and lighting. Works to also include the provision of amenity walk around the perimeter of the existing soccer pitch. Moyne Villa F.C.,	**24/03/2011**
12-1396	To construct a private dwelling house (220sqm) and a domestic garage (95sqm) with connection to the adjoining public sewer along with all associated services. Gleeson, Lorraine.	**14/02/2013**
1467	For the construction of a residential development for 110 units comprising of the following 1) 1 no. creche facility, 2) 15 no. 4-bed detached dwellings with study, 3) 1 no. 4-bed detached dwellings 4) 26 No 4 bed semi-detached dwellings, 5) 32 no. 3-. O'Connor, Sean F.	**23/03/2014**
131273	To carry out alterations to existing approved forecourt layout/canopy. Joyce, Pat.	**01/02/2014**
13846	For (a) amalgamation of Unit No.7 (granted under Pl. Ref. 12/1341) with approved supermarket and (b) the removal and replacement of existing Cupressocyparis trees with native beech hedging (granted under Pl. Ref. 10/66). Joyce, Pat.	**07/10/2013**
13631	For alterations to approved plans/services granted under Pl. Ref no. 10/66 including retention of re-located window in West elevation. Joyce, Pat.	**08/08/2013**
13516	To carry out alterations to existing forecourt canopy. Joyce, Pat.	**14/07/2013**
111044	To construct no. 6 floodlights 16m in height to sports field. Moyne Villa F.C.	**27/10/2011**
1066	For the redevelopment of the existing supermarket/superstore. The development will include the demolition of 2 no. dwelling and parts of the existing structures on site, including the superstore and elements of the	**18/03/2010**

	supermarket and related buildings an. Joyces Supermarket Ltd,	
131392	For (a) revisions to approved site layout, (b) retention of concrete slab and re-located solar panels (granted under Pl. ref. No. 10/66). (Gross floor space to be retained 104.5 sqm). Joyce, Pat.	**22/02/2014**
121150	Domestic garage at No. 3 (gross floor space 39.4sqm). Egan, Ignatius & Mary.	**07/11/2012**
131195	For change of use from previous retail use to a coffee shop/restaurant and for the provision of signage to the front elevation of the building along with all associated services (gross floor space 63sqm). McHugh, Rory.	**10/01/2014**
121194	To (1) construct part temporary/part permanent extension at north-east corner of existing office building comprising training/conference room, offices and associated circulation area/WC (2) convert existing store to toilets and wet room/changing facil. The Commissioner of Public Works, .	**20/11/2012**
12891	To 1) demolish the existing building with the exception of the front facade and 2) to construct a new two storey development including modifications to the front elevation consisting of a ground floor retail unit and two number first floor 2 bedroom a. Philips, Jarlath. C, 06/09/2012	**06/09/2012**
111548	For alterations to the front elevation to include the installation of a new canopy over the existing ATM and all ancillary site works. of Ireland, Bank.	**17/01/2012**
13789	To construct a new shed for storing animal feedstuffs, as part of existing business (Gross floor space 185sqm). Joyce, Jim.	**17/09/2013**
121466	For (a) an ESB substation (b) improvements to existing entrance and associated car parking area serving existing hardware store, garden centre and builders providers. Planning permission for retention for a temporary period of five years is also being. Joyce, Jim.	**29/01/2013**
11631	For amendments and alterations to the development previously permitted under pl. ref. 07/3849. The proposed amendments and alterations to the previously approved development, includes the following (a) the provision of a single storey hardware (bulky) Joyce, Jim.	**22/10/2011**
12795	To carry out alterations and to extend the roof on an existing dwelling. Gavin, M.	**12/09/2012**
12411	For extension to existing residential development consisting of 82 No. accommodation units and creche facility together with associated site services. (Gross floor space 8964.60sqm) Previous Planning Ref No. 07/518. G. Mc Donagh, R. Corbett &.	**27/05/2012**

1231	For the construction of a new pharmacy and living accommodation (gross floor space 178.38sqm). Keady, A.	**27/06/2012**
101879	To demolish existing dwelling house and to construct services dwelling house (gross floor space 148sqm). McGaugh, Tom and Mary.	**24/02/2011**
10165	For the demolition of an existing single storey service building located to the southwest corner of the existing service yard, the removal of a single storey security hut located at the existing entrance gates to the service yard, the removal of exist. The Commissioner of Public Works, .	**31/05/2010**
12352	For revisions to existing planning permission ref. no. 05/1444 consisting of revised site layout, changing 3 no. detached houses to 6 no. semi-detached houses and 1 no. detached house, previous planning reference no. 07/59 (Gross floor area 1009.6 sq. Burke, Noel. C,	**14/05/2012**
14178	For the erection of 4 no.16m permanent pitch floodlights to main playing pitch on the grounds.Corrib Rugby Football Club	**29/05/2014**
14104	For the construction of 6 new fllodlight columns to football pitches carrying a total number of 52 lamps.Previous Planning Reference number 09-43.Headford GAA Club	**28/3/2014**
14337	To carry out an extension and alterations to existing dwelling and a partial change of use into a Montessori/Playschool to the rear of the dwelling with associated services (gross floor space 6sqm) Previous planning reference 09-886.	**20/05/2014**
14494	Extension of Duration for the construction of a 60 bed nursing Home ,including daycare facilities,16 semi-detached retirement cottages, a service are and shed together with associated services and for alterations to a site boundary as granted under 99/862(gross floor space 2896sqm)(previous planning reference 08/3738) in the townland of Headford. Granted EOD.	**19/8/2014**