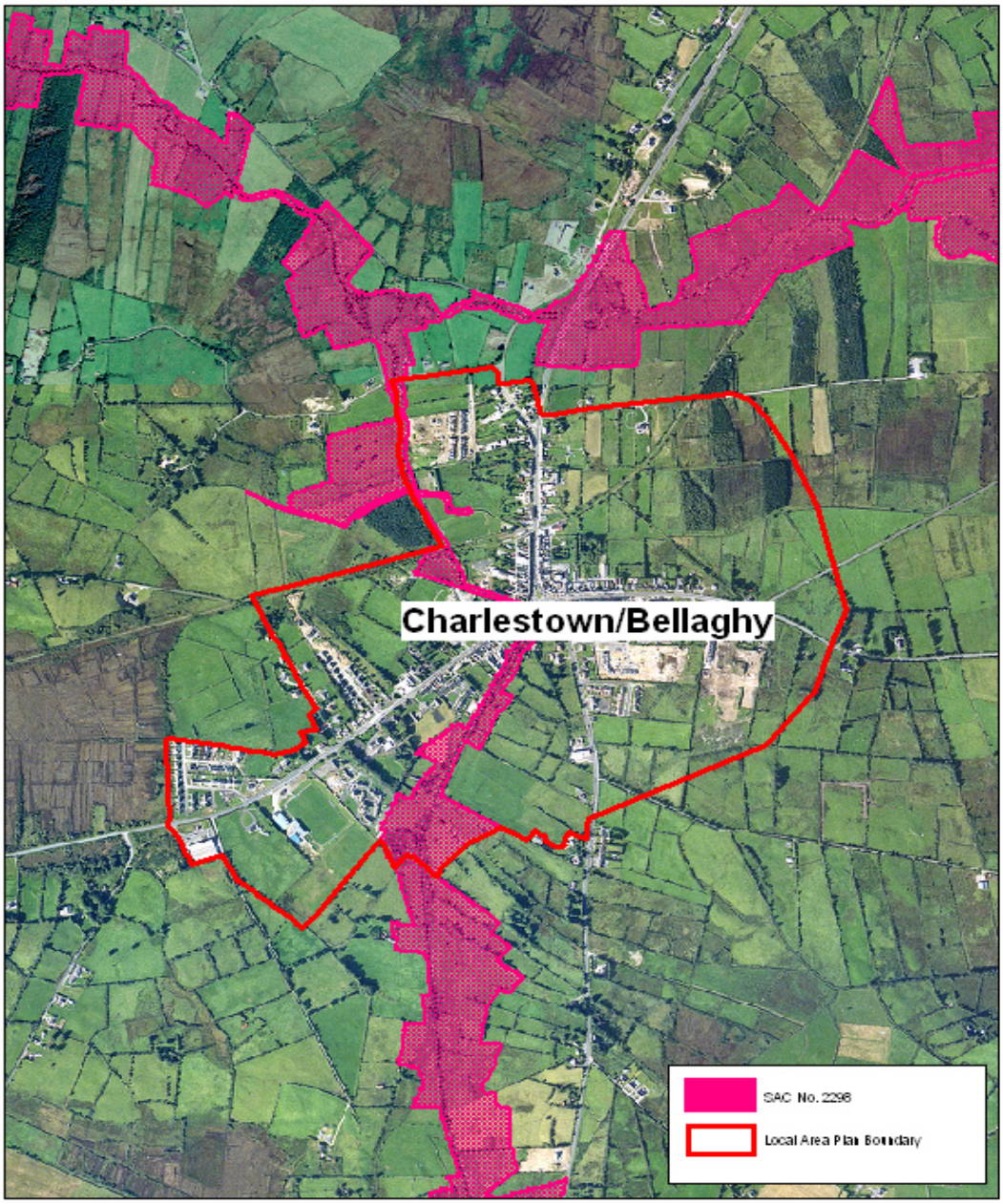
APPROPRIATE ASSESSMENT SCREENING

In accordance with Article 6(3) and (4) of the Habitats Directive 92/43/EEC

PROPOSED DRAFT CHARLESTOWN-BELLAGHY LOCAL AREA PLAN 2009-2015



INTRODUCTION

The proposed Draft Charlestown/Bellaghy Local Area Plan (LAP) is a land use plan intended to provide a positive framework for the proper planning and sustainable development of the towns for the next six years. Mayo and Sligo County Councils have undertaken to prepare the Plan jointly as per the provisions of Section 18 (2) of the Planning & Development Act 2000.

An LAP is one of the land use plans prepared in a hierarchy of land use plans including the National Spatial Strategy 2000 - 2020, the Regional Planning Guidelines 2004 - 2016 for the West Region and the current Mayo and Sligo County Development Plans. The LAP strategy is required to be consistent with the policies and objectives of these strategic actions. In turn, any programmes or projects which may take place in Charletown/Bellaghy will have to be consistent with the LAP.

Mayo and Sligo County Councils are required to undertake an Appropriate Assessment Screening on the Draft Charlestown/Bellaghy Local Area Plan to fulfil the requirements of Article 6(3) of the EU Habitats Directive 92/43/EEC in respect of land use planning.

The Purpose of Appropriate Assessment

Articles 6(3) and 6(4) of the Habitat Directive 92/43/EEC require an Appropriate Assessment of plans to prevent significant adverse effects on Natura 2000 sites.

> **Article 6(3)** *Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect there on either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and if appropriate, after having obtained the opinion of the general public.*
>
> **Article 6(4)** *If, in spite of a negative assessment of the implications for the 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 social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of the Nature 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

The purpose of this Appropriate Assessment screening is to address the potential impacts, of this land-use plan on the conservation objectives of the relevant Natura Site(s) (River Moy SAC site code 2298). The Assessment must determine whether the plan is likely to have significant effects on the site and whether these effects will adversely affect the integrity of the site in terms of its nature conservation objectives.
This screening statement reviews the objectives and proposals within the Draft Charlestown/Bellaghy Local Area Plan. This review will focus on the effect of the policies and objectives and, (through the use of an in-house matrix which is not part of this document) identifies those that:

(a) Will have no effect on the Natura 2000 sites

(b) Could have an effect on the Natura 2000 sites
(c) Would be likely to have a significant effect on the Natura 2000 sites

Where potential problems/concerns with policies, objectives, standards did arise, necessary amendments were made to the Local Area Plan's content to address same.

Sources/References
In preparation of this Appropriate Assessment Screening regard has been had to the following documents:

- National Parks & Wildlife Service (2008) *The Status of EU Protected Habitats and Species in Ireland*

- European Commission (2000) *Managing Natura 2000 Sites. The provision of Article 6, of the 'Habitats' directive 92/43/EEC*

- European Commission (2002) *Assessment of plans and projects significantly affecting Natura 2000 sites, Methodological guidance on the provision of Article 6 (3) and (4) of the Habitats Directive 92/443/EEC.*

- Department of the Environment Heritage and Local Government (DEHLG) Circular Letter SEA 1/08 & NPWS 1/08, dated 15.2. 2008.

- The Royal Society for the Protection of Birds (RSPB) (2007): *The Appropriate Assessment of Spatial Plans in England – A Guide to why, when and how to do it*

- Scott Wilson/Levett-Therivel/Treweek Environmental Consultants/Land Use Consultants(September 2006) *Appropriate Assessment of Plans*

- Scottish Natural Heritage(January 2006) *Guidance for Competent Authorities when dealing with proposals affecting SAC freshwater sites*

- Scottish Executive Development Department (May 2006) *Assessing Development Plans in Terms of Need for Appropriate Assessment* – Interim Guidance.

- Mayo County Council/National Roads Authority (Regional Design Office): N26 Ballina to Bohola Stage 2 – Environmental Impact Statement

- Duchas, The Heritage Service 1998/ J.D Reynolds; Irish Wildlife Manuals No.1: *Conservation Management of the White-Clawed Crayfish*

- Atkins Consultants Ltd on behalf of Mayo County Council (2008) Mayo Habitat Mapping (Chapter 8 –Charelstown)

- Other websites consulted:
- National Parks & Wildlife Service (Internet) Available from www.npws.ie (Accessed April 2009)
- EU Water Framework Directive (Internet) Available from www.wfdireland.ie (Accessed April 2009)
- Western River Basin District Project (Internet)Available from http://www.wrbd.ie/ (Accessed April 2009)

- Environmental Protection Agency (Internet) Available from www.epa.ie (Accessed April 2009)
- Geological Survey of Ireland (Intranet) Groundwater Public Viewer. Available from http://spatial.dcenr.gov.ie/imf/imf.jsp?site=Groundwater

Appropriate Assessment Screening – The Process involved

In accordance with *European Commission: Assessment of plans and projects significantly affecting Natura 2000 sites, Methodological guidance on the provision of Article 6 (3) and (4) of the Habitats Directive 92/443/EEC,* Stage 1 of the Appropriate Assessment process is Screening which comprises four steps

- Determining whether the project or plan is directly connected with or necessary to the management of the Natura 2000 site.

- Describing the project or plan and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the Natura 2000 site.

- Characteristics of the site – identifying the potential effects on the Natura 2000 site.

- Assessment of the Significance – assessing the significance of any effects on the Natura 2000 site.

APPROPRIATE ASSESSMENT SCREENING FORM
Project Name: Draft Local Area Plan for Charlestown/Bellaghy

1.0– Introduction

1.1 - Brief description of the project or plan	The Charlestown/Bellaghy Draft LAP is a land use plan which will provide a positive framework for the proper planning and sustainable development of the town for a duration of six years when adopted. The Local Area Plan consists of a written statement – which indicates land use and other development standards together with various local objectives – and maps - which provide a graphical representation of the LAP proposals. The LAP must be consistent with the policies and objectives of the strategic actions at national, regional and county level. In turn, any programmes or projects which may take place in Charlestown/Bellaghy will have to be consistent with the LAP. Mayo County Council/Sligo County Council is committed to delivering the vision set out in the LAP by working in partnership with local people and organizations so as to achieve a town that: • Has a sustainable level of development which is in accordance with the county settlement strategy and is appropriate to the character of Charlestown/Bellaghy. • Supports and protects the environment, heritage, amenity of Charlestown/Bellaghy. • Has a high quality built environment/public realm incorporating hard and soft landscaping complimentary to Charlestown/Bellaghy. • Provides for a variety of land uses including residential, commercial, industrial and community/social. • Has an adequate level of physical and social/community infrastructure to support existing and future populations.
1.2 - Brief description of the Natura 2000 site	Site Code 00 2298 River Moy cSAC The Moy system is one of Ireland's premier salmon waters and it also encompasses two of Ireland's best lake trout fisheries in Loughs Conn and Cullin. Although the Atlantic Salmon (*Salmo salar*) 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 Habitats Directive. Salmon run the Moy every month of the year. Both multi-sea-winter fish and grilse are present. The salmon fishing season is 1st February to 30th September. The site is also selected for alluvial wet woodlands and raised bog. This site comprises almost the entire freshwater element of the Moy and its tributaries including both Loughs Conn and Cullin. The Moy system drains a catchment area of 805 sq. km. The River Moy flows through the towns of Foxford and Ballina. Charlestown/Bellaghy town is not adjacent to the River Moy though the town and its environs drains to the Mullaghanoe River which is a tributary of the River Moy and is within the designated River Moy SAC complex. (In the context of the Charlestown/Bellaghy LAP,, the following habitats list is of most relevance having regard to their reliance on River Moy tributaries which are located within the Plan area)

	7110 - Active Raised bogs*[1] 7120 - Degraded raised bogs still capable of natural regeneration 7150 - Depressions on peat substrates of the Rhynchosporion 91AO - Old sessile oak woods with Ilex and Blechnum in British Isles 91EO - Alluvial forests with Alnus glutionssa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* (In the context of the Charlestown/Bellaghy LAP,, the foregoing species(none of which are listed as priority species) list is of most relevance having regard to their reliance on River Moy tributaries which are located within the Plan area) 1106 - Salmon (in fresh water only) – *Salmo salar* 1095 - Sea Lamprey – *Petromyzon marinus* 1092 - White – clawed Crayfish – *Austropotamobius pallipes* 1355 - Otter – *Lutra* *1096* – Brook Lamprey *(Lampetra planeri)* Annex II species, Brook Lamprey and River Lamprey have been recorded in this part of the Moy system.
2.0 - Assessment Criteria	
2.1 - Describe the individual elements of the project/plan (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	As a number of potential impacts arising from the Plan implementation are unquantifiable, the precautionary principle is therefore employed and these impacts represent the worst case scenario: Potential impacts on the Natura 2000 site from implementing the LAP are listed hereunder: - Deterioration of the water quality of the Mullaghanoe River, through pollution, siltation, enrichment, accidental spills. - Reduction in the quantity/quality of riverside habitat However, it is considered that the implementation of the Draft Charlestown/Bellaghy LAP, and through the safeguarding measures incorporated into the policies, objectives and standards of the LAP alone or in combination is not likely to give rise to significant effects on the Natura 2000 site. A justification of this is set out hereunder.
2.2 - Describe any likely direct, indirect or secondary impacts of the project/plan (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:	

[1] * Denotes priority habitat

2.2.1 - Size and Scale;	Based on existing population forecasting carried out as part of the current Mayo and Sligo County Development Plans, the LAP provides for a combined potential population increase to 1264 by 2016, (which is beyond the Plan period). The existing combined population (Census 2006) is 845. This population growth will be facilitated by both brownfield and greenfield development within the Plan area, which by in large will be infill in nature.
2.2.2 - Land-take;	The Charlestown/Bellaghy Draft LAP has zoned lands beyond that required over the lifetime of the plan, as per guidance from the DoEHLG in order to ensure continuity of supply and to compensate for those development lands that will not be taken up during the Plan period. The entire Plan area comprises an area of 151 hectares (approx). All new zoned land is contiguous to the existing development lands of Charlestown/Bellaghy. A phasing scheme has been incorporated into the Plan to allow for the release and development of residential lands on a sequential basis with lands closest to the town centre being given priority.
2.2.3 - Distance from the Natura 2000 site or key features of the site;	The Mullaghanoe River and its banks, which flows through the town of Charlestown/Bellaghy, is identified as an element of the River Moy SAC Site Code 00 2298.
2.2.4 - Resource requirements (water abstraction etc.);	The main potential impact on the Natura site in relation to resource requirements will come from water requirements. Drinking water is sourced from a well at Tombohola townland outside Charlestown/Bellaghy and has adequate capacity for the short to medium term. The groundwater source is contained within a locally important aquifer which is only moderately productive in local zones.[2] There is a long term objective to serve the whole of east mayo from an alternative source, which the council is currently investigating, and a brief for a feasibility study in this regard is currently with the DoEHLG.
2.2.5 - Emissions (disposal to land, water or air);	As stated previously, a tributary of the River Moy (Mullaghanoe River) flows through the Plan area where it meets the Moy River c. 8km to the north west of Charlestown/Bellaghy. The existing Waste Water Treatment Plant (WWTP) in Charlestown/Bellaghy which is operational since 1982 (with no subsequent upgrades) has a current design capacity of 1200 PE. The plant consists of preliminary treatment, followed by secondary treatment. The WWTP is located in County Sligo but is owned/operated by Mayo County Council. Following treatment waste water is currently discharged from the wastewater treatment plant to the Mullaghanoe River. Sampling stations downstream of the treatment plant demonstrate that the river is not currently adversely impacted in terms of water quality (Refer to Appendix

[2] http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI_Simple

	2). As the collection system in the town is a combination (i.e. foul and surface) in places, the WWTP currently accepts both foul and surface water. Upgrades in both the WWTP's capacity and the standard of treatment are expected to be in place in 2-3 years. Mayo County Council currently has an application with the E.P.A for a Waste Water Discharge License for the Charlestown/Bellaghy WWTP in compliance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007.
2.2.6 - Excavation requirements; **2.2.7 - Transportation requirements** **2.2.8 - Duration of construction, operation,** **2.2.9 – Decommissioning** **2.2.10 – Other**	Excavation requirements within the Plan area may arise through individual developments controlled through the Development Management Process. Increased traffic and subsequent road construction/improvements. Duration of construction operation will be in line with planning permissions granted; however the statutory timeframe for the plan's existence is a maximum of 6 years. N/A N/A

2.3 - Describe any likely changes to the site arising as a result of:	
2.3.1 - Reduction of habitat area:	There will be no reduction in the habitat area of the SAC as a result of implementing the LAP.
2.3.2 - Disturbance to key species;	There will be no disturbance to key species of the site. The LAP contains sufficient safeguarding measures to ensure this. Section 3.7.3 and Section 3.7.4 of the Draft LAP provide protection for the Natura 2000 site and its primary function. No projects will be permitted on the basis of this Plan (either individually or in combination with other plans or projects) which give rise to disturbance to key species for the Natura 2000 site. The site has been listed for the following EU Habitats directive Annex 1 Habitat and Annex II species; **<u>HABITAT – SAC qualifying interests</u>** **7110** - Active Raised bogs*[3] **7120** - Degraded raised bogs still capable of natural regeneration **7150** - Depressions on peat substrates of the Rhynchosporion **91AO** - Old sessile oak woods with Ilex and Blechnum in British Isles **91EO** - Alluvial forests with Alnus glutionssa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)*****

[3] * denotes priority habitat as per EU Council Directive 92/43/EEC

It should be noted that these habitat types do not occur within the Plan area[4].

SPECIES – SAC qualifying interests and their current status

1106 - Salmon (in fresh water only) – (*Salmo salar)*
Substandard water quality, unsuitable channel morphology/substrate and unsuitable flow rates are the identifiable potential threats to this species from implementing this Plan. High water quality standards throughout its complex life cycle are of paramount importance in terms of the ecological requirements of the Salmon's habitat. Its overall conservation status on a countrywide level is described as poor. The Salmon is known to occur in the Moy River complex however more specific details are not available.

1092 - White – clawed Crayfish – (*Austropotamobius pallipes)*
Substandard water quality and unsuitable channel morphology/substrate are the identifiable potential threats to this species from implementing this Plan. The water quality required by crayfish includes high dissolved oxygen, adequate lime in the water and an absence of organic pollution. Its overall conservation status on a countrywide level is described as poor. The White Clawed Crayfish is known to occur in the Moy River complex however more specific details are not available.

1095 - Sea Lambrey – (*Petromyzon marinus)* and 1096 – Brook Lamprey *(Lampetra planeri)*
Substandard water quality, unsuitable channel morphology/substrate and unsuitable flow rates are the identifiable potential threats to this species from implementing this Plan. Lampreys use both fast and slower-flowing areas of a river during their life cycle. Rivers that support lamprey populations provide the diversity of water depths, flow regimes and substrate types necessary to meet the spawning, juvenile and migratory requirements of both the Sea and Brook Lamprey. The overall conservation status of the Sea Lamprey on a countrywide level is described as poor, however the overall conservation status of the River and Brook Lamprey is described as good. During sampling for the NPWS Irish Wildlife Manual, *A survey of Juvenile Lamprey populations in the Moy Catchment* (O'Connor 2004) Brook/River Lamprey were recorded in the Mullaghanoe River.

1355 - Otter – (*Lutra)*
Substandard water quality and removal of vegetated riverbanks within the Plan area are identifiable potential threats to this species.
Inland populations of Otter use a range of running and standing fresh waters. They are reliant on an ample food supply associated with high water quality together with suitable habitat such as vegetated

[4] As per Habitat Mapping conducted by Atkins Consultants on behalf of Mayo County Council within the entire Plan area.

	river banks. Its overall conservation status on a countrywide level is described as poor. The Otter is known to occur in the Moy River complex however more specific details are not available. Taking into account the proposed plan, individually and in combination with other plans, and having regard to the ecological requirements of the individual species as described above, there will be no significant threat to the listed species as a result of implementing the Charlestown/Bellaghy Local Area Plan (LAP). As stated previously, the draft plan zones the section of the SAC within the Plan area as "Biodiversity and Conservation" – which would be considered a more appropriate zoning objective. No development would be permitted that would lead to the reduction of the riverside Otter habitat.
2.3.3 - Habitat or species fragmentation; reduction in species density;	Having regard to the safeguarding measures incorporated into the LAP, there will be no habitat or species fragmentation nor any reduction in species density.
2.3.4 - Changes in key indicators of conservation value (water quality etc.);	Having regard to the safeguarding measures incorporated into the LAP, there will be no changes in key indicators of conservation value, the main one which is the water quality of the Mullaghanoe River.
2.3.5 - Climate change.	Good planning practice takes account of climate change through consolidation of development within the boundaries and the associated reduced reliance on private transport.
2.4 - Describe any likely impacts on the Natura 2000 site as a whole in terms of:	<u>It is considered that the implementation of the Draft LAP, as amended, will not give rise to adverse impacts on the Natura 2000 site, as set out in the subsections hereunder:</u>
2.4.1 - Interference with the key relationships that define the structure of the site;	As previously stated, a small section of the SAC area is inside the Plan boundary, which has been zoned "*Biodiversity and Conservation*" in the proposed draft LAP. Any development proposals within this zoning will be assessed individually to determine potential impacts on the conservation objectives of the site.
2.4.2 - Interference	

with key relationships that define the function of the site.	A key relationship in the case of the River Moy SAC, for the purposes of this land-use plan is the relationship between the Listed species heavily reliant on the conditions prevailing in the River Moy tributaries (eg Mullaghanoe River) that are located within the Plan area. The policies, and standards contained in the Plan are adequate safeguarding measures to ensure that no project arising from this LAP would give rise to significant adverse changes in key relationships that define the function of the site.
2.4.3 - Provide indicators of significance as a result of the identification of effects set out above in terms of: • **loss;** • **fragmentation;** • **disruption;** • **disturbance;** • **change to key elements of the site (e.g. water quality etc.).**	N/A
2.4.4 - Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts is not known.	N/A

3.0- Findings of no significant effects report matrix	
3.1 - Name of project or plan	Draft Charlestown/Bellaghy Local Area Plan
3.2 - Name and location of Natura 2000 sites	The River Moy SAC (site Code 00 2298)
3.3 - Description of the project or plan	The Charlestown/Bellaghy Draft Local Area Plan (LAP), when implemented, will provide a positive framework for the proper planning and sustainable development of the town for a maximum duration of six years unless amended. It consists of a written statement – which indicates land use and other development standards together with various local objectives – and maps - which provide a graphical representation of the LAP proposals.
3.4 - Is the project or plan directly connected with or necessary to the management of the site (provide details)?	While the Plan is not one directly connected with or necessary to the management of the site, the LAP is a land use plan that will (through Plan policies and development standards) control point source pollution arising from development within the plan area and indirectly assist in the management of the water quality of that section of the site that is within the Plan area, which in turn can only benefit the area of the water body as a whole.
3.5 - Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?	The River Moy SAC and its associated tributaries drain a large area which includes other towns some of which are having LAPs prepared. However all LAP's will sit underneath the applicable County Development Plans in the hierarchy of plans and will comply with all policies/objectives/development management standards contained therein, including those relating to the conservation and protection of Natura 2000 sites. In addition, any other LAP undertaken will undergo initial Appropriate Assessment screening and full Appropriate Assessment where required.
4.0 - The assessment of significance of effects	
4.1 - Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site It is considered that the implementation of the LAP in its current proposed draft format, (alone or in combination) will not give rise to adverse impacts on the Natura 2000 site.	
	4.2 - Explain why these effects are not considered significant. Allied to the environmentally responsible policies, objectives and standards in the proposed Draft Charlestown/Bellaghy Local Area Plan, within which are adequate safeguarding measures, any proposed development as may be permitted on the basis of the Plan will also be required to conform to the relevant regulatory provisions for the prevention of pollution, nuisance or other environmental effects. Taken in combination these policies, plans and regulations will protect the integrity of the Natura 2000 Site. As the area of SAC within the plan area has been zoned "Conservation & Biodiversity", with individual planning applications assessed as to their potential for adverse impacts on the SAC, the potential for significant effects on the listed Annex 1 habitat and Annex

	II species is not considered significant. Section 2.1 of this report identified the 2 no. potential threats to the SAC from implementing the Plan as the following: - Deterioration of the water quality of the Mullaghanoe River, through pollution, siltation, enrichment, accidental spills. - Reduction in the quantity/quality of riverside habitat Therefore, in addition to the foregoing sections of this report, it is considered that any impacts will not be significant for the following reasons:
	Wastewater Treatment • *Sampling Results/Trends/Safeguarding* - Sampling results downstream of the wastewater treatment plant show that any current municipal discharge to the Mullaghanoe river is localized in extent (please see attached Appendix 2). In addition the Environment Section is satisfied that the Charlestown/Bellaghy Treatment Plant is currently (apart from isolated incidents as per Appendix 2) in full compliance with the effluent emission limit values prescribed in the Urban Wastewater Treatment Regulations 2001 (Appendix 2, Section 4 Table no. 1) • *Treatment Plant Capacity* – The existing wastewater treatment plant in Charlestown/Bellaghy has adequate capacity to cater for short-medium term population growth. However, depending on the take-up of development land during the life of the LAP, Policy Statement I10 in the proposed LAP is an adequate safeguarding measure which states that proposals can be deemed premature if there are issues with inadequate wastewater treatment capacity. Planned upgrades to the WWTP and its capacity are expected to be in place in 2-3 years[5]. • *Discharge License* – Mayo County Council has applied to the EPA for a discharge license associated with the Treatment Plant in accordance with the requirements of the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007). The purpose of which is to implement outstanding aspects of the EU Dangerous Substances and Water Framework

[5] As part of a Design, Build, Operate bundle with Belmullet and Foxford

	Directives.
	Surface water Treatment and Protection • *SUDS Implementation* - The LAP contains policies and standards to ensure that all development taking place complies with and incorporates the principals of SUDS (Sustainable Urban Drainage Systems) thus restricting flows to green-field run-off rates. This will assist in conserving the available capacity in the WWTP. • *Interceptors* - All surface water drainage systems to be fitted with petrol/oil interceptor traps. • *Salmonid Waters* – Section 3.7.4 of the LAP provides that any planning application within 15m of a salmonid watercourse (or watercourse feeding into salmonid waters) shall demonstrate that the development would not adversely impact on the salmonid species or the species that sustain them. • *Construction Management Plans* –All relevant developments will be required to comply with a previously approved construction management plan to ensure that no adverse impacts on any watercourse will take place. • *Future study of Mullaghanoe River* - As well as ongoing monitoring of the Mullaghanoe River, the LAP also provides for the carrying out of a study into the condition of the Mullaghanoe River (and its tributaries) over the lifetime of the Plan.
	Water abstraction/Flow rates – There is sufficient capacity in the current drinking water source (ground water source) to cater for medium term requirements. There is nothing to suggest that flow rates in any of the Moy tributaries in the region have been (or will be) affected as a result of this abstraction. The towns drinking water is sourced from a locally important aquifer which is only moderately productive in local zones.[6] **Riverside SAC Habitat –** A small section of the SAC area is inside the Plan boundary, which has been zoned *"Biodiversity and Conservation"* in the proposed draft LAP. Any development proposals within this zoning will be assessed individually to determine potential impacts on the conservation objectives of the site.

[6] http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI_Simple

5.0 Conclusion

A small section of the Natura 2000 site is located within the Plan boundary, however it is considered that the Draft LAP has been formulated to ensure that the uses, developments and effects arising from proposals and/or permissions based upon the policies and objectives of the Plan, either individually or in combination with other plans or projects will not give rise to significant adverse impacts on the integrity of the Natura 2000 site. The Plan contains adequate safeguarding measures to ensure that the conservations objectives of the sites would not be compromised.

Therefore the proposed plan, either individually, or in combination with other plans/projects will not affect the integrity of the River Moy SAC (002298).

List of agencies consulted: provide contact name and telephone or e-mail address.	***(For purposes of Swinford LAP where similar issues arose)*** ***J. Fositt – Julie.Fossit@environ.ie*** ***Dr. Rebecca Jeffrey – 01 8883259*** ***Shannon Regional Fisheries Board***
Response to consultation	*Following a review of a preliminary version of the AA screening for the Swinford LAP, J. Fossitt of NPWS made comments on the lack of data within the document relating to the specific requirements of, and possible threats to, the Annex I & Annex II species in question.*

Data collected to carry out the Assessment Screening

Who carried out the Appropriate Assessment Screening?	**Sources of data**	**Level of assessment**	**Where can the full results of the Assessment Screening be accessed and viewed?**
Forward Planning Sections, Mayo and Sligo County Councils In consultation with the Environment, Roads and Sanitary sections of Mayo and Sligo County Councils and Heritage Officers of Mayo and Sligo County Councils.	Please see Introduction section above (Pg 3)	Desk Top Study Site Visits	Forward Planning Sections, Mayo and Sligo County Councils.

Appendix 1 – Site Synopsis 00 2298
Appendix 2 – Water Quality Supporting Information

APPENDIX 1

SITE SYNOPSIS
SITE NAME: RIVER MOY -SITE CODE: 002298

This site comprises almost the entire freshwater element of the Moy and its tributaries including both Loughs Conn and Cullin. The system drains a catchment area of 805 sq. km. Most of the site is in Co. Mayo though parts are in west Sligo and north Roscommon. Apart from the Moy itself, other rivers included within the site are the Deel, Bar Deela, Castlehill, Addergoole, Clydagh and Manulla on the west side and the Glenree, Yellow, Strade, Gweestion, Trimogue, Sonnagh, Mullaghanoe, Owengarve, Eighnagh and Owenaher on the east side. The underlying geology is Carboniferous Limestone for the most part though Carboniferous Sandstone is present at the extreme west of the site with Dalradian Quartzites and schists at the south west. Some of the tributaries at the east, the south of Lough Conn and all Lough Cullin are underlain by granite. There are many towns adjacent to but not within the site. These include Ballina, Crossmolina, Foxford, Charlestown/Bellaghy, Kiltimagh and Charlestown.

The site is a candidate SAC selected for alluvial wet woodlands and raised bog, both priority habitats on Annex I of the E.U. Habitats Directive. The site is also a candidate SAC selected for old oak woodlands, degraded raised bog and Rhynchosporion, all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive – Atlantic Salmon, Otter, Sea and Brook Lamprey and White-clawed Crayfish.

On the slopes and rising ground around the southern shores of Loughs Conn and Cullin, Oak woodlands are seen. Sessile Oak (*Quercus petraea*) is the dominant tree with an understorey of Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Birch (*Betula pubescens*) with some Ash (*Fraxinus excelsior*). Additional species are associated with the lakeshore such as the whitebeam (*Sorbus rupicola*), Aspen (*Populus tremula*), Silver Birch (*B. pendula*) and the shrubs Guelder Rose (*Viburnum opulus*), Buckthorn (*Rhamnus catharticus*) and Spindle Tree (*Euonymus europaeus*). The ground flora is usually composed of Bilberry (*Vaccinium myrtillus*), Wood Rush (*Luzula sylvatica*), Wood Sorrel (*Oxalis acetosella*), Buckler Ferns (*Dryopteris aemula* and *D. dilatata*), Hard Fern (*Blechnum spicant*), Cow-wheat (*Melampyrum* spp.) and Bracken (*Pteridium aquilinum*). The rare Narrow-leaved Helleborine (*Cephalanthera longifolia*), protected under the Flora Protection Order, 1999, occurs in association with the woodlands. Also found in these woodlands is the snail (*Acanthinula lamellata*), associated with old natural woodlands.

On higher ground adjacent to the woodlands is blanket bog with scattered shrubs and trees on the drier areas. The rocky knolls often bear Juniper (*Juniperus communis*) or Gorse (*Ulex europaeus*), with some unusual rare herb species such as Intermediate Wintergreen (*Pyrola media*) and Lesser Twayblade (*Listera cordata*).

Within the site are a number of raised bogs including those at Kilgarriff, Gowlaun, Derrynabrock, Tawnaghbeg and Cloongoonagh. These are examples of raised bogs at the north-western edge of the spectrum and possesses many of the species typical of such in Ireland, including an abundance of Bog Asphodel (*Narthecium ossifragum*), Carnation Sedge (*Carex panicea*) and the moss *Campylopus atrovirens*. Some of the bogs include significant areas of active raised bog habitat. Well developed pool and hummock systems with quaking mats of bog mosses (*Sphagnum* spp.), Bog Asphodel (*Narthecium ossifragum*) and White Beaked-sedge (*Rhynchospora alba*) are present. Many of the pools contain a diversity of plant species, including Bogbean (*Menyanthes trifoliata*), the bog moss *Sphagnum cuspidatum*, *Campylopus atrovirens*, Common Cottongrass (*Eriophorum angustifolium*), Great Sundew (*Drosera anglica*) and occasional Lesser

Bladderwort (*Utricularia minor*). Several of the hummockforming mosses (*Sphagnum fuscum* and *S. imbricatum*) which occur here are quite rare in this region and add to the scientific interest of the bogs within the overall site.

Depressions on the bogs, pool edges and erosion channels, where the vegetation is dominated by White Beaked-sedge (*Rhynchospora alba*) comprise the habitat Rhynchosporion. Associated species in this habitat at the site include Bog Asphodel, Sundews, Deergrass (*Scirpus cespitosus*) and Carnation Sedge.

Degraded raised bog is present where the hydrology of the uncut bogs, has been affected by peat cutting and other land use activities in the surrounding area such as afforestation and associated drainage and also by the Moy arterial drainage. Species typical of the active raised bog habitat are still present but the relative abundance of them is different. A typical example of the degraded habitat, where drying has occurred at the edge of the high bog, contains an abundance and more uniform cover of Ling Heather (*Calluna vulgaris*), Carnation Sedge, Deergrass and sometimes Bogmyrtle (*Myrica gale*). Occurring in association with the uncut high bog are areas of wet regenerating cutover bog with species such as Common Cottongrass, bog mosses and Sundew, while on the drier areas, the vegetation is mostly dominated by Purple Moor-grass (*Molinia caerulea*). Natural regeneration with peat-forming capability will be possible over time with some restorative measures.

The open water of Loughs Conn and Cullin is moderately hard with relatively low colour and good transparency. The phytpoplankton of the lake is dominated by diatoms and blue-green algae and there is evidence that the latter group is more common now than in former years. This indicates that nutrient inflow is occurring. Arctic Charr (*Salvelinus alpinus*) appear to have disappeared from the lake over the same period of time. The changes in Lough Conn appear to represent an early phase in the eutrification process. Stoneworts still present include *Chara aspera, C. delicatula* and *Nitella* cf. *opaca*. Other plants found in the shallower portions are the pondweeds. Where there is a peat influence Intermediate Bladderwort (*Utricularia intermedia*) is characteristic while Water Lobelia (*Lobelia dortmanna*) often grows in sand. Narrow reedbeds and patches of Yellow Water-lily (*Nuphar lutea*) occur in some of the bays.

Drainage of the Moy in the 60s lowered the level of the lakes, exposing wide areas of stony shoreline and wet grassland, which are liable to flooding in winter. This increased the habitat diversity of the shoreline and created a number of marginal wetlands, including fens and marshes. Plant species of note in the lake-margin include Heath Cudweed (*Omalotheca sylvatica*), Great Burnet (*Sanguisorba officinalis*) and Irish Lady's-tresses (*Spiranthes romanzoffiana*). These three species are listed on the Irish Red Data list and are protected under the Flora Protection Order 1999.

Other habitats present within the site include wet grassland dominated by Rushes (*Juncus* spp.) grading into species-rich marsh in which sedges are common. Among the other species found in this habitat are Yellow Iris (*Iris pseudacorus*), Water Mint (*Mentha aquatica*), Purple Loosestrife (*Lythrum salicaria*) and Soft Rush (*Juncus effusus*).

Grey Willow (*Salix cinerea*) scrub and pockets of wet woodland dominated by Alder (*Alnus glutinosa*) have become established in places throughout the site. Ash (*Fraxinus excelsior*) and Birch (*Betula pubescens*) are common in the latter and the ground flora is typical of wet woodland with Meadowsweet (*Filipendula ulmaria*), Angelica (*Angelica sylvestris*), Yellow Iris, Horsetail (*Equisetum* spp.) and occasional tussocks of Greater Tussock-sedge (*Carex paniculata*).

Small pockets of conifer plantation, close to the lakes and along the strip both sides ofthe rivers, are included in the site.

The Moy system is one of Ireland's premier salmon waters and it also encompasses two of Ireland's best lake trout fisheries in Loughs Conn and Cullin. Although the Atlantic Salmon (*Salmo salar*) 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 Habitats Directive. The Moy is a most productive catchment in salmon terms and this can be attributed to its being a fingered system with a multiplicity of 1st to 5th order tributaries which are large enough to support salmonids < 2 years of age while at the same time being too small to support significant adult trout numbers and are therefore highly productive in salmonid nursery terms.

Salmon run the Moy every month of the year. Both multi-sea-winter fish and grilse are present. The salmon fishing season is 1st February to 30th September. The peak of the spring fishing is in April and the grilse begin running in early May. The average weight of the spring fish is 9 lb and the grilse range from about 3-7 lb. In general spring fish are found more frequently in the rivers at the western extent of the Moy system.

The Arctic Char (*Salvelinus alpinus*), an interesting relict species from the last ice age, which is listed as threatened in the Irish Red Data Book has been recorded from Lough Conn and in only a few other lakes in Ireland. The latest reports suggest that it may now have disappeared from the site.

The site is also important for the presence of three other species listed on Annex II of the E.U. Habitats Directive, namely Sea Lamprey (*Petromyzon marinus*), Otter (*Lutra lutra*) and White-clawed Crayfish (*Austropotamobius pallipes*). The Sea Lamprey is regularly encountered in the lower stretches of the river around Ballina, while the otter and crayfish are widespread throughout the system. In addition, the site also supports many more of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger, Irish Hare and Daubenton's Bat. Common Frog, another Red Data Book species, also occurs within the site. Loughs Conn and Cullin support important concentrations of wintering waterfowl and both are designated Special Protection Areas. A nationally important population of the Annex I species Greenland White-fronted Geese (average 113 over 6 winters 1994/95 to 1999/00) is centred on Lough Conn. Whooper Swans also occur (numbers range between 25 to 50), along with nationally important populations of Tufted Duck 635, Goldeneye 189 and Coot 464. A range of other species occur on the lakes in regionally important concentrations, notably Wigeon 303, teal 154, Mallard 225, Pochard 182, Lapwing (>1,000) and Curlew 464. Golden Plover also frequent the lakes, with numbers ranging between 700 and 1,000.

Loughs Conn and Cullin are one of the few breeding sites for Common Scoter in Ireland. Breeding has occurred on Lough Conn since about the 1940s when about 20- 30 pairs were known. A census in 1983 recorded 29 pairs. Breeding was first proved on Lough Cullin in 1983 when 24 pairs were recorded. In 1995, 24-26 pairs were recorded at Lough Conn and 5 pairs at Lough Cullin. The latest survey in 1999 gives a total of 30 birds for both lakes, comprising only 5 pairs, 18 unpaired males and 2 unpaired females. The reason for the decline is not known but may be due to predation by mink, possible changes in food supply and/or redistribution to other sites. The Common Scoter is a Red listed species.

Agriculture, with particular emphasis on grazing, is the main landuse along the Moy. Much of the grassland is unimproved but improved grassland and silage are also present. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the large lakes. Fishing is a main tourist attraction on the Moy and there are a large number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. The North Western Regional Fishery Board has erected fencing along selected stretches of the river as part of their salmonid enhancement programme. Other aspects of tourism are concentrated around Loughs Conn and Cullin.

Afforestation has occurred in the past around the shores of Loughs Conn and Cullin. The coniferous trees are due for harvesting shortly. It is proposed to replant with native tree species in this area. Forestry is also present along many of the tributaries and in particular along the headwaters of the Deel. Forestry poses a threat in that sedimentation and acidification occurs. Sedimentation can cover the gravel beds resulting in a loss of suitable spawning grounds. The Moy has been arterially dredged in the 60s. Water levels have been reduced since that time. This is particularly evident along the shores of Loughs Conn and Cullin and in the canal-like appearance of some river stretches. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This is extremely destructive to salmonid habitat in the area.

The site supports populations of several species listed on Annex II of the EU Habitats Directive, and habitats listed on Annex I of this directive, as well as examples of other important habitats. The presence of a fine example of broad-leaved woodland in this part of the country increases the overall habitat diversity and adds to the ecological value of the site as does the presence of the range of nationally rare and Red Data Book plant and animal species.

16.05.2005

Appendix 2 - Water Quality Supporting Information

Table of Contents:

Section 1 – Introduction and Layout of Report

This report is aimed at providing technical assistance and back-up data and information to the Forward Planning Sections of Mayo and Sligo County Councils, for input into the Appropriate Assessment process of the Charlestown/Bellaghy Local Area Plan (LAP).

It should be pointed out from the outset that this report does not try to assess impacts on, or measure the potential risk to, the water quality of the Mullaghanoe and Moy Rivers from developments (both existing and those arising from the Plan) within the proposed LAP area. The Environment Section works closely with the Planning Section of Mayo County Council during plan formulation to ensure that the appropriate safeguarding measures are in place in order that developments arising from the Plan do not give rise to adverse impacts on the environment.

Section 2 comprises a report generated from the Water Framework Directive website and contains information specific to the Mullaghamore River, including specific risks to the river's water quality and required measures to protect same.

Section 3 contains information sourced directly from the EPA website relating to river water quality all along the Mullaghanoe River to its confluence with the River Moy c8km to the northwest of Charlestown/Bellaghy.

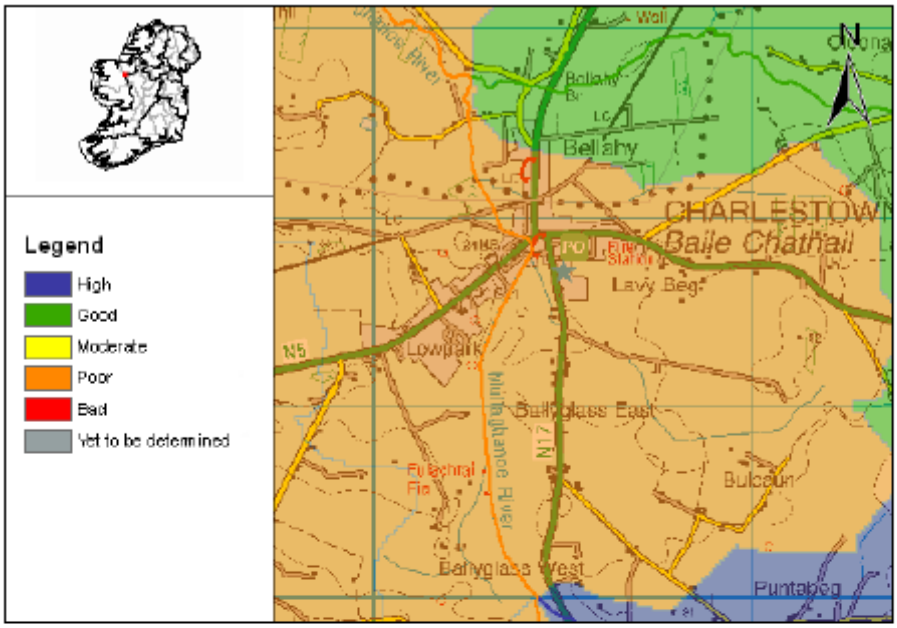
Section 4 contains information sourced from the Mayo County Council Water Monitoring Section, detailing results and the location of the monitoring point just downstream of the discharge point from the WWTP.

Section 5 provides the Non-Technical summary of the Wastewater Discharge Application made to the EPA in February 2009 (Reference No. D0214-01). Foe the purposes of the application, Mayo County Council are the lead water services authority and Sligo County Council are the co-applicant authority.

Section 6 provides a brief conclusion.

Section 2 – Report generated from Water Framework Directive Website

Full Report for Waterbody WE_Moy_Mullaghanoe_LavyBeg



Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Ecological and Chemical Waterbody Status

WaterBody Category:	River Waterbody
WaterBody Name:	WE_Moy_Mullaghanoe_LavyBeg
WaterBody Code:	IE_WE_34_2464
Overall Status Result:	Poor

	Status Report	Result
	Biological Elements	
DI	Phytobenthos (Diatoms)	n/a
EX	Extrapolated Waterbody	
FI	Fish	n/a
FPM	Status value as determined by Margartifera	n/a
NoS	Waterbodies containing no status	
Q	Macroinvertebrates (Q-Value)	Poor
	Supporting Elements	
MOR	Hydromorphology	n/a
PAS	Specific Pollutants	n/a
PC	General Physico-Chemical	Pass
	Chemical Status	
SPO	Chemical Status	n/a
	Overall Ecological Status	
O	Overall Ecological Status	Poor

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Risk Report

WaterBody Category:	River Waterbody
WaterBody Name:	WE_Moy_Mullaghanoe_LavyBeg
WaterBody Code:	IE_WE_34_2464
Overall Risk Result:	1a At Risk

	Risk Test Description		Result
	Point Risk Sources		
RP1	WWTPs	1a	At Risk
RP2	CSOs	2b	Not At Risk
RP3	IPPCs	2b	Not At Risk
RP4	Section 4s	2b	Not At Risk
RPO	Overall Risk from Point Sources - Worst Case	1a	At Risk
	Diffuse Risk Sources		
RD1	EPA diffuse model	1a	At Risk
RD2a	Road Wash - Soluble Copper	2b	Not At Risk
RD2b	Road Wash - Total Zinc	2b	Not At Risk
RD2c	Road Wash - Total Hydrocarbons	2b	Not At Risk
RD3	Railways	2b	Not At Risk
RD4a	Forestry - Acidification	2b	Not At Risk
RD4b	Forestry - Suspended Solids	2b	Not At Risk
RD4c	Forestry - Eutrophication	2a	Probably Not At Risk
RD5a	Unsewered Areas - Pathogens	2a	Probably Not At Risk
RD5b	Unsewered Phosphorus	2b	Not At Risk
RD5	Overall Unsewered	2b	Not At Risk
RD6a	Arable	2b	Not At Risk
RD6b	Sheep Dip	2b	Not At Risk
RD6c	Forestry - Dangerous Substances	2b	Not At Risk
RDO	Diffuse Overall -Worst Case	1a	At Risk

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

	Morphological Risk Sources		
RM1	Channelisation		At Risk
RM2	Embankments		Not at Risk
RM3	Impoundments	2b	Not At Risk
RM4	Water Regulation	2b	Not At Risk
RMO	Morphology Overall - Worst Case		At Risk
	Q/RDI or Point/Diffuse		
QRA	Q class/RDI1 or worst case of Point and Diffuse	1a	At Risk
	Hydrology		
RHY1	Water balance - Abstraction	2b	Not At Risk
	Overall Risk		
RA	Rivers Overall - Worst Case	1a	At Risk

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

WaterBody Objectives Report

WaterBody Category:	River Waterbody
WaterBody Name:	WE_Moy_Mullaghanoe_LavyBeg
WaterBody Code:	IE_WE_34_2464
Overall Objective:	Restore

	Waterbody Objectives	Result
	Objectives	
OB1	Objective 1 - Protected Areas	Restore
OB2	Objective 2 - Protect High and Good Status	No Status
OB3	Objective 3 - Restore Less Than Good Status	No Status
OB4	Objective 4 - Reduce Chemical Pollution	No Status
OBO	Overall Objective	Restore
	Deadline	
	Default Year by which the objective must be met	2015
EXT	Extended Objective Deadline	Restore - 2015

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Basic Measures

WaterBody Category: River Waterbody

WaterBody Name: WE_Moy_Mullaghanoe_LavyBeg

WaterBody Code: IE_WE_34_2464

	Basic Measures	Applicable
	Key Directives	
BA	Bathing Waters Directive	No
BI	Birds Directive	No
HA	Habitats Directive	Yes
DW	Drinking Waters Directive	Yes
SEV	Major Accidents and Emergencies (Seveso) Directive	Yes
EIA	Environmental Impact Assessment Directive	Yes
SE	Sewage Sludge Directive	Yes
UW	Urban Waste Water Treatment Directive	No
PL	Plant Protection Products Directive	Yes
NI	Nitrates Directive	Yes
IP	Integrated Pollution Prevention Control Directive	Yes
	Other Stipulated Measures	
CR	Cost recovery for water use	Yes
SU	Promotion of efficient and sustainable water use	Yes
DWS	Protection of drinking water sources	Yes
AB	Control of abstraction and impoundments	Yes
PT	Control of point source discharges	Yes
DI	Control of diffuse source discharges	Yes
GWD	Authorisation of discharges to groundwater	No
PS	Control of priority substances	Yes
MOR	Control of physical modifications to surface waters	Yes
OA	Controls on other activities impacting on water status	Yes
AP	Prevention or reduction of the impact of accidental pollution incidents	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Urban and Industrial Discharges Supplementary Measures

WaterBody Category:	River Waterbody
WaterBody Name:	WE_Moy_Mullaghanoe_LavyBeg
WaterBody Code:	IE_WE_34_2464

	Point discharges to waters from municipal and industrial sources	Result
PINDDIS	Is there one or more industrial discharge (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) contained within the water body?	No
PINDDISR	Are there industrial discharges (Section 4 licence issued by the local authority or IPPC licence issued by the EPA) that cause the receiving water to be 'At Risk' within the water body?	No
PB1	Basic Measure 1 - Measures for improved management.	Yes
PB2	Basic Measure 2 - Optimise the performance of the waste water treatment plant by the implementation of a performance management system.	Yes
PB3	Basic Measure 3 - Revise existing Section 4 license conditions and reduce allowable pollution load.	Yes
PB4	Basic Measure 4 - Review existing IPPC license conditions and reduce allowable pollution load.	Yes
PB5	Basic Measure 5 - Investigate contributions to the collection system from unlicensed discharges.	Yes
PB6	Basic Measure 6 - Investigate contributions to the collection system of specific substances known to impact ecological status.	Yes
PB7	Basic Measure 7 - Upgrade WWTP to increase capacity.	Yes
PB8	Basic Measure 8 - Upgrade WWTP to provide nutrient removal treatment.	Yes
PS1	Supplementary Measure 1 - Measures intended to reduce loading to the treatment plant.	Yes
PS2	Supplementary Measure 2 - Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants.	Yes
PS3	Supplementary Measure 3 - Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive.	Yes
PS4	Supplementary Measure 4 - Initiate research to verify risk assessment results and determine the impact of the discharge.	Yes
PS5	Supplementary Measure 5 - Use decision making tools in point source discharge management.	Yes
PS6	Supplementary Measure 6 - Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive.	No
PS7	Supplementary Measure 7 - Apply a higher standard of treatment (stricter emission controls) where necessary.	No
PS8	Supplementary Measure 8 - Upgrade the plant to remove specific substances known to impact on water quality status.	Yes
PS9	Supplementary Measure 9 - Install ultra-violet or similar type treatment.	No

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

PS10	Supplementary Measure 10 - Relocate the point of discharge.	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Physical Modifications Supplementary Measures

WaterBody Category:	River Waterbody
WaterBody Name:	WE_Moy_Mullaghanoe_LavyBeg
WaterBody Code:	IE_WE_34_2464

	Physical Modifications Supplementary Measures	**Applicable**
	European Code	IE_WE_34_2464
	Reduce	
SM1	Codes of Practice	Yes
SM2	Support for voluntary initiatives	Yes
	Remediate	
SM3	Channelisation impact remediation schemes	No
SM4	Channelisation investigation	Yes
SM5	Overgrazing remediation	No
SM6	Impassable barriers, impact confirmed, investigation into feasibility of remediation required	No
SM7	Impassable barriers investigation	Yes

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Urban and Industrial Discharges Supplementary Measures

WaterBody Category:

WaterBody Name:

WaterBody Code:

Supplementary Measure	Applicable?

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Forestry Measures

WaterBody Category:	River Waterbody
WaterBody Name:	WE_Moy_Mullaghanoe_LavyBeg
WaterBody Code:	IE_WE_34_2464

Forestry Measures	Applicable

Date Reported to Europe: 22/12/2008

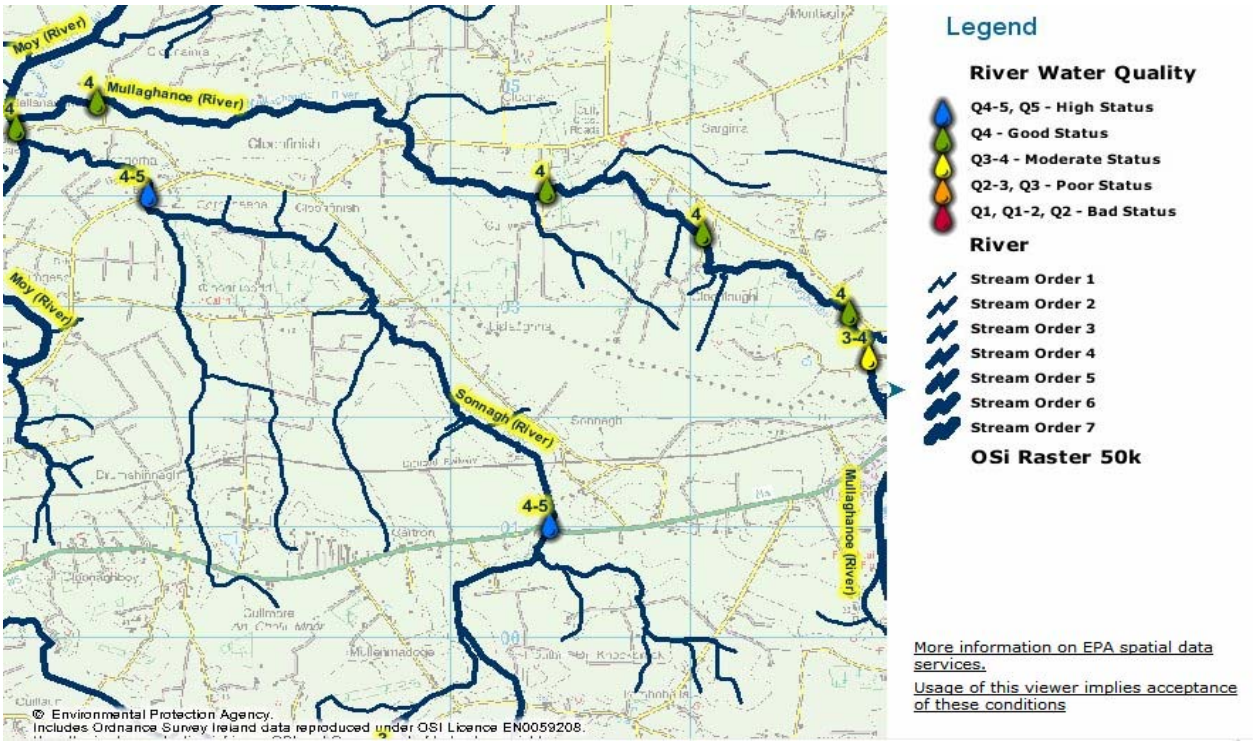
Date Report Created 24/03/2009

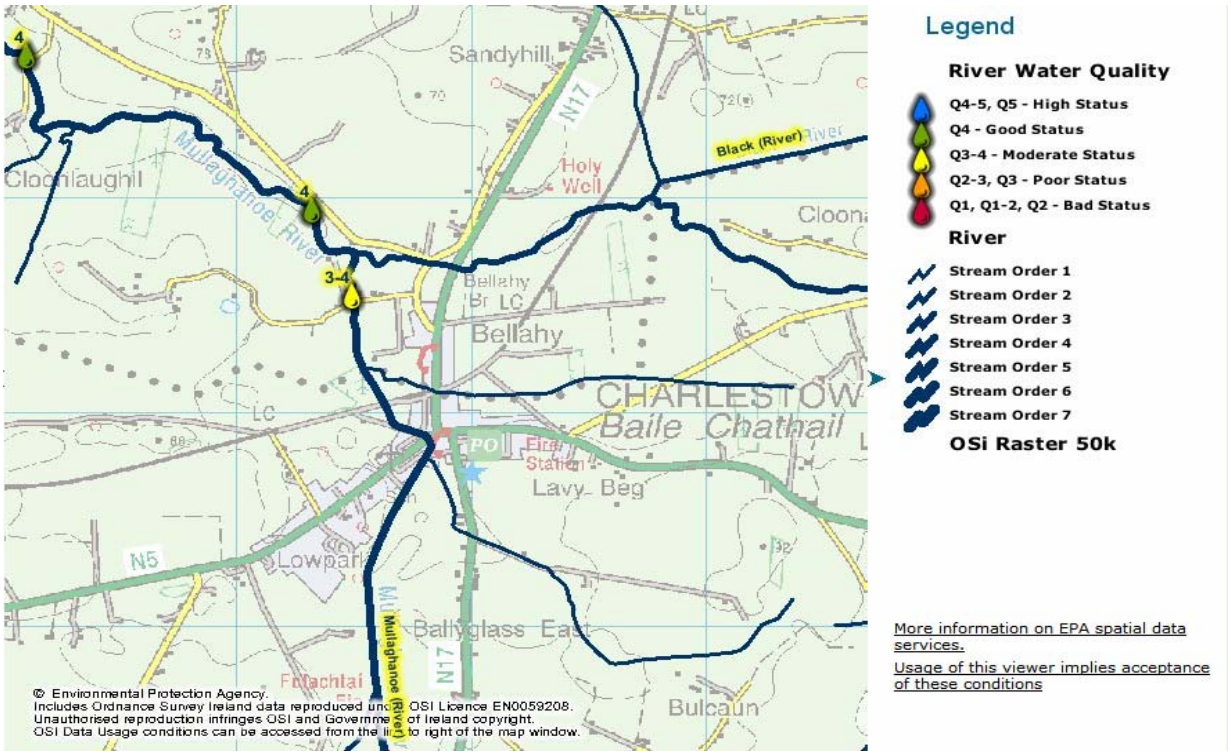
	Forestry	
SF1	Management Instruments - Ensure regulations and guidance are cross referenced and revised to incorporate proposed measures	No
SF2	Acidification - Avoid or limit afforestation on 1st and 2nd order stream catchments in acid sensitive areas	No
SF3	Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected and revise boundary conditions for afforestation in acid sensitive areas	No
SF4	Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites	No
SF5	Eutrophication and Sedimentation - Change the tree species mix on replanting	No
SF6	Eutrophication and Sedimentation - Limiting felling coup size	No
SF7	Eutrophication and Sedimentation - Establish new forest structures on older plantation sites	No
SF8	Hydromorphology - Audit existing drainage networks in forest catchments	No
SF9	Pesticide Use - Reduce pesticide usage	No
SF10	Pesticide Use - Pre-dip trees in nurseries prior to planting out	No
SF11	Pesticide Use - Maintain registers of pesticide use	No
SF12	Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves	No
SF13	Acidification - Mitigate acid impacts symptomatically using basic material	No
SF14	Acidification - Manage catchment drainage to increase residence times and soil wetting	No
SF15	Acidification - Implement measures to increase stream production.	No
SF16	Eutrophication - Establish riparian zone management prior to clearfelling	No
SF17	Eutrophication and Sedimentation - Enhance sediment control	No
SF18	Eutrophication - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF19	Sedimentation - Establish riparian zone management prior to clearfelling	No
SF20	Sedimentation - Enhance sediment control	No
SF21	Sedimentation - Manage catchment drainage to increase residence times and soil wetting, including no drainage in some locations	No
SF22	Hydromorphology - Enhance drainage network management, minimise drainage in peat soils	No
SF23	Pesticide Use - Develop biological control methods	No

Date Reported to Europe: 22/12/2008

Date Report Created 24/03/2009

Section 3 – Data compiled from EPA website





Section 4 – Data compiled from Mayo County Council Water Monitoring Office

Wastewater Treatment Plant Discharge

Mayo County Council currently monitors all discharges from the Charlestown/Bellaghy WWTP. The Information available within Mayo County Council Environment Section covers the period 2005 to 2009. Non-compliant data are highlighted in Table 1 below in red. All other sampling carried out at Charlestown for the period specified, i.e. 2005-2009 was in compliance with discharge limits prescribed in the Urban wastewater Treatment Regulations 2001.

Entity Name	Station Name	Sample Purpose	Sample Date	Ammonium (NH4)	BOD[1]	COD[2]	Dissolved O2 % Saturation	Ortho-phosphate	PH	Suspended Solids	Total Nitrogen	Total Phosphorus
Charlestown	Outflow	Discharge Monitoring	25/08/08	23.064	26	70	40	2.472	7.4	16	24.7	2.619
Charlestown	Outflow	Discharge Monitoring	10/11/08	4.713	<2	39	54.2	0.13	7.4	72	7.41	0.168

Table 1 - *Compliance data for Charlestown WWTP under the Urban wastewater Treatment Regulations 2001*

[1] Biological Oxygen Demand
[2] Chemical Oxygen Demand

Figure 1 – Location of downstream monitoring point - Charlestown Stream (34C28) Station 0100 Bridge W.N.W of Bellaghy (X 147505 Y 302542)

Section 5 –Non-Technical summary - Charlestown/Bellaghy Wastewater Discharge Application to Environmental Protection Agency

A.1 Non-Technical Summary

1. WASTE WATER DISCHARGE LICENCE (BACKGROUND)

Mayo County Council, Aras an Chontae, Castiebar, County Mayo is making an application to the Environmental Protection Agency (E.P.A.) for a Waste Water Discharge Licence, for the Charlestown / Bellaghy Waste Water Treatment Plant & Agglomeration, in compliance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).

Under Schedule 2 of the above regulations, the prescribed date for submission of Waste Water Discharge Licence Applications for agglomerations (with discharges with a population equivalent of 1001 PE to 2000 PE) is Feb 27th 2009. The waste water works at Charlestown falls under this category, presently having an agglomeration with a population equivalent of 1200 PE, and a BOD load of 92kg/day.

The Charlestown / Bellaghy Sewerage Scheme is currently served by a combined wastewater treatment collection system with a secondary treatment plant located to the North West of the town. It consists of preliminary treatment, followed by secondary treatment with the treated effluent discharging to the Mullaghanoe River. Waste sludge used to be dried on drying beds before final disposal off site but this practice has ceased.

2. DESCRIPTION OF EXISTING CHARLESTOWN WASTE WATER TREATMENT PLANT

Charlestown town

Charlestown is located to the east of county Mayo approximately 25km North East of Castlebar.
It is on the border with County Sligo. The Sligo part of the agglomeration is known as Bellaghy, which is located to the north of Charlestown.
Charlestown is located on the junction of the N5/N17. The population of Charlestown in the 2006 census of population stood at 859 persons. A Geo-Directory database, counted between houses and apartments approximately 600 properties in the catchment. DWF at the plant was estimated at 320m3/day.

Charlestown Municipal Wastewater Treatment Plant

Charlestown / Bellaghy Waste Water Treatment Plant has been in operation since June 1982.
The plant is actually located in Co. Sligo but Mayo County Council is the owner.

The incoming wastewater is initially received into the preliminary treatment facilities where it is lifted by screw pumps to screening facilities.

Flows in excess of the design capacity overflow a raked bar interceptor screen and are then pumped to a storm discharge by similar overflow pumps.
Incoming flows are recorded via a flume and level sensor on their way to secondary treatment.

Preliminary treatment



Screenings are removed manually by a raked bar screen. Grit removal and maceration equipment do not work on site.

Secondary treatment

The screened wastewater then flows forward to the secondary treatment process which consists of an activated sludge process comprising an aeration tank followed by sedimentation.

The aeration tank has an estimated capacity of 425m3 while the sedimentation tank has a diameter of 8.4m

A sludge pumping station is provided to return the activated sludge from the sedimentation tank to the aeration tank. Waste sludge is withdrawn from tanker and disposed at Swinford WWTP.

The old drying beds are now redundant.

1. SOURCES OF EMISSIONS:

• **SW1(P)** ..... located on the Mullaghanoe River 147,531E 302219N

Storm Overflows

SW2.
A storm flow operates at the treatment plant. Anything greater than 3DWF, overflows a raked bar screen, into a storm sump. Two Screw type pumps lift the excess flow into a chamber where it is discharged to the Mullaghanoe River.

SW3. Located on the Swinford Road line, where it turns at the Mullaghanoe River.

SW4. Located on the Galway Road sewer, where it turns northwards at the Mullaghanoe River at the end of the small laneway behind Ballyglass House.

SW5. Located on a 225mm side branch into the Swinford Road sewer just upstream of where it crosses the Mullaghanoe River and joins with the Galway Road sewer.
It is proposed to eliminate this overflow as the downstream sewer has enough capacity to deal with peak storm flows from any rainfall without surcharging.

SW6. Located on the main Bellaghy line, this appears to be a culvert under the N17. Located at a manhole outside the petrol station, just upstream of where it discharges into the main outfall at the railway crossing. It connects up with a second Bellaghy line and a line coming from the Market Square area.

2. NATURE AND QUANTITIES OF FORESEEABLE EMISSIONS

The wastewater treatment works is designed to treat the wastewater treatment to the standards required by the Urban Wastewater Treatment Regulations
i.e. BOD 25 mg/l, COD 125mg/l and SS 35 mg/l.

As per Preliminary Report the existing Estimated throughput (including stormwater) is 500-600m3/day.

The Proposed Charlestown / Bellaghy WWTP design for year 2026 is 4000 P.E. approximately with a BOD load of 240kg/day, and a flow of 900m3/day

No information is available on the nature and quantities of the discharges from the storm overflows.

All discharges take place to the Mullaghanoe River which is within the Moy Catchment Special Area of Conservation, Site Code 000458. The Mullaghanoe River is a Salmonoid river and is one of the main spawning and nursery grounds of the River Moy catchment.
The River Mullaghanoe is in the Western River Basin Catchment and has an overall Risk Category under the Water Framework Directive of a 1A, at significant risk.
Results were obtained from the E.P.A. for sampling carried out downstream of all the discharge points.

3. TECHNOLOGY FOR PREVENTION OR REDUCTION OF EMISSIONS

Emissions from the waste water treatment works are monitored and the treatment process is constantly adjusted to maximise the efficiency of the plant in removing any pollutants. The process, as has already been summarised above, is limited in removing BOD, nitrogen, phosphorous and suspended solids from the final effluent which results in a reduction of harmful emissions from the treatment works.

Further Measures Planned to Eliminate or Reduce Emissions

Proposed works for upgrading Charlestown Sewage Treatment Plant

Land availability.
The existing site is of acceptable size to cater for the proposed upgrades to the plant.

Sewer hydraulic upgrading and network extensions.
As a result of the hydraulic modelling of the existing sewer network, under future loading conditions a number of existing sewers will be increased in size. In total eight sewer hydraulic upgrades, as well as one sewer network extension to the development boundary is required.

Sewer Structural Rehabilitation
As part of the CCTV survey the structural condition of sewers were visually assessed and graded on their internal condition. The existing system is resulting in excessive spills at the existing sewer overflows and surcharging in the existing sewers. Thus a number of sewers will be upgraded in the town.
The main defects noted were faulty connections, debris in the sewers, pipe breaks, fractures and cracks infiltration.

Future proposed upgrade.
A complete determination of the type of treatment to be used in the upgraded plant cannot be made at this time, however based on an initial preliminary report the following has been proposed.

Preliminary Treatment
For the most part preliminary treatment of the wastewater arising from the proposed sewerage scheme upgrade will be independent of the secondary treatment process selected. The preliminary treatment process will consist of removal of plastic and rags as well as grit silt and sand from the waste stream. Screening facilities will be provided to remove inorganic, non bio-degradable solids such as stones rags bottles timber paper etc.

Flow measurement and influent sampling will be carried out at the Inlet works.

Secondary Treatment
A Sequencing Batch Reactor process has been chosen to operate in parallel with the existing aeration tank and associated secondary clarifier. Nutrient removal will also be achieved with this process.

Tertiary treatment
The requirement to achieve a tertiary standard effluent means that an additional solids removal unit operation is required after the principal treatment process. The selection of either a sand filter

or alternatively a micro-strainer was investigated. Sand filters are the preferred option in this instance.

Sludge treatment.
A gravity thickener, using a Picket Fence thickener is proposed followed by dewatering using a belt press.

4. SUPERVISION OF WORKS

The wastewater treatment works is staffed by a caretaker 4 hours per day.

Measures planned to monitor emissions to the environment

Sampling currently takes place at the wastewater treatment works final effluent manhole, in accordance with the provisions of the Urban Wastewater Treatment Regulations. This will continue to be the case.

The Charlestown Sewerage Scheme is operated without the use of a SCADA system. The storm water overflow points are subject to a regular inspection and cleaning regime which will continue.

Section 6 Conclusion

While the Lavy Beg stretch of the Mullaghanoe River, downstream of Charlestown is of moderate – poor water quality, where the river was affected by municipal[1] discharges, it should be pointed out that extensive forestry and moderately intensive agriculture in the catchment upstream of Charlestown are contributory factors.

The main channel of the Mullaghanoe downstream of Charlestown is of Good water quality status, along almost its entire length to its confluence with the Main channel of the Moy River (SAC 002298)

Station 0190 0.2km downstream of the Charlestown/Lavy Beg branch attained a Q Value of 4 in 2004, while station 0300 – Bridge 1km upstream of the Moy River SAC also attained a Q value of 4 indicating that municipal discharge from Charlestown via the lavy Beg stretch is localized in extent, and with only a minor influence on water quality of the River Moy SAC.

However slight and intermittent pollution, in addition to non-compliance with the EC (Quality of Salmonid waters) Regulations 2007[2] has been reported by the EPA (2007) in the Mullaghanoe river.

[1] M L Mc Garrigle, KJ Clabby J Lucy Interim Report on the Biological Survey of River Quality Results of the 2001 Investigations. EPA Wexford

[2] R Smith 2008 A Report on River Water Quality in Co Mayo 2007 EPA Castlebar