

Revised / Updated Gweedore Bay Pollution Reduction Programme



Name	Gweedore Bay Shellfish Area
Map number	26
Year of designation	2009 (S.I. No. 55 of 2009)
Area	5.76 km ²
River Basin District	North Western International RBD
County	Donegal
Location of sampling point	55 deg 03.429 min North (Lat) 8 deg 19.365 min West (Long)
Catchment area	236.58 km ²

1.0 INTRODUCTION

1.1 Programme Objective

Compliance with the standards and objectives established by the Quality of Shellfish Waters Regulations 2006 (S.I. No. 268 of 2006) (as amended) for the designated shellfish growing waters at Gweedore Bay and with Article 5 of Directive 2006/113/EC of the European parliament and of the Council on the quality required for shellfish waters.

1.2 Pollution Reduction Programme

This pollution reduction programme for the shellfish growing waters at Gweedore Bay has been established by the Minister for the Environment, Community and Local Government in order to protect and improve water quality in the designated shellfish growing areas in Gweedore Bay and in particular, to ensure compliance with the standards and objectives for these waters established by the 2006 Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006) and with Article 5 of Directive 2006/113/EC of the European parliament and of the Council on the quality required for shellfish waters.

1.3 Supporting Characterisation Report and Toolkit of Measures

The Pollution Reduction Programme stems from the work undertaken in the characterisation report for Gweedore Bay. The characterisation is designed to achieve the following:

- establish the catchment that influences the water quality of the designated area;
- identify the different types of pressures or impacts prevalent in the catchment;
- establish an initial assessment of the water quality within the catchment and within the designated shellfish area using all water quality data available;
- from the above three elements identify the pressures that are active in the catchment and subsequently impacting the water quality in the designated shellfish area;
- having identified the pressures impacting on the water quality the characterisation report prioritises them in relation to their impact.

The characterisation report thus provides a prioritised list of pressures/impacts/effects on water quality. The pollution reduction programme or action plan takes this prioritised list and addresses each issue with actions to help ensure that compliance with the relevant water quality standards is achieved or ensured.

The measures/actions included in this PRP to address the identified pressures on shellfish water quality in this catchment are based on a National Toolkit of Measures. The National Toolkit has been derived from earlier work carried out on the River Basin Management Plans under the Water Framework Directive (WFD), reflecting the common objective to improve water quality in the two Directives. In addition, designated shellfish waters are part of the WFD Register of Protected Areas, providing a further link between the Pollution Reduction Programmes and River Basin Management Planning.

Within each individual PRP specific measures from the National Toolkit are applied, where required, to address the key and secondary pressures identified in each of the designated shellfish waters.

1.4 Strategic Environmental Assessment and Habitats Directive Assessment

The Strategic Environmental Assessment (SEA) and Habitats Directive Assessment (HDA) processes were carried out in tandem with the PRP compilation process. These assessments both informed the development of alternatives considered for the PRP and included detailed high-level assessments highlighting the potential positive and negative impacts (including cumulative impacts) associated with application of the measures contained in the National Toolkit. In addition, a more focussed assessment was also carried out which considered the individual and cumulative impacts associated with implementation of the measures brought forward into this individual PRP.

As a result of the SEA and HDA assessments mitigation measures were identified in order to reduce potential negative impacts associated with implementation of the PRP. The relevant mitigation measures are included in Annex 1 of the PRP. The mitigation measures arising from the SEA are noted in black, while the mitigation measures arising from the HDA noted in blue.

1.5 Monitoring of Water Quality

The Marine Institute is carrying out a monitoring programme to monitor the condition of waters in the shellfish growing area and to verify compliance, or otherwise with the water quality standards outlined in Schedules 2 and 4 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006) and summarised in Table 1 of the Characterisation Report (Chapter 1 of the Characterisation Report refers). The Marine Institute will submit a report on water quality in respect of the designated area to the Minister each year, and will immediately bring to the attention of the Department of the Environment, Community and Local Government any non-compliance with a water quality standard to enable investigation to be undertaken.

1.6 Review/monitoring of Pollution Reduction Programme

This pollution reduction programme will be kept under review by the Minister and will be updated and amended as needed from time to time, having regard to water quality conditions within the shellfish growing area including changes in water quality in response to the implementation of measures and other factors arising in the catchment that may affect water quality in the designated area.

The pollution reduction programme will be reviewed at intervals not exceeding three years and, where necessary, at lesser intervals if the monitoring data indicates a deterioration in water quality status or a risk that the objectives or standards laid down in the Regulations will not be achieved.

When the Pollution Reduction Programme is being reviewed the most current baseline data will be consulted.

Prior to the incorporation of the PRP into the second cycle of the River Basin Management Plans a review of the Strategic Environmental Objectives for Water will be carried out as against those drawn up for assessment of the first cycle River Basin Management Plans to ensure that the Shellfish PRP help to meet the wider Water Framework Directive water quality objectives.

1.7 Monitoring of Environmental Impacts

Article 10 of the SEA Directive requires that monitoring be carried out in order to identify at an early stage any unforeseen adverse effects due to implementation of the PRP, with the view to taking remedial action where adverse effects are identified through monitoring. An Environmental Monitoring Programme has been developed which focuses on aspects of the environment that are likely to be impacted by the PRPs. The Environmental Monitoring Programme is included in Table 5 of the National Toolkit of Measures. The Department of the Environment, Community and Local Government will be the authority responsible for collecting and collating data under the Environmental Monitoring Programme. The data will be collected at the same time the pollution reduction programme is reviewed.

1.8 Monitoring Implementation of Pollution Reduction Programme

This PRP is effectively a sub-basin plan of the River Basin Management Plan for the catchment and will be implemented during the first implementation cycle under the Water Framework Directive (i.e up to 2015).

Implementation of the pollution reduction programme will be monitored by the Water Quality Section of the Department of the Environment, Community and Local Government.

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2.0 STATUS/IMPACTS

Overall status	<p>The results of monitoring (2009) undertaken for the purposes of the Shellfish Waters Directive (2006/113/EC) and Schedules 2 and 4 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006) indicated that there were water quality issues with faecal coliform levels within / in the vicinity of this shellfish area.</p> <p>The most up to date results of monitoring (2012) indicate that this area is in compliance with the Guide Value of 300 faecal coliforms / 100ml. However due to the previous indication it is prudent to continue with the actions outlined in this Pollution Reduction Programme.</p> <p>The results of Shellfish Water monitoring do not indicate any water quality issues within/ in the vicinity of this shellfish area.</p>
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	<p>Monitoring of shellfish flesh for food hygiene purposes (2012) indicates faecal contamination in this shellfish area. The bivalve mollusc production areas in Gweedore Bay are classified as 'Class B' for the purposes of EU Regulation 854/2004. However, the available shellfish samples at this shellfish area are all in compliance with the shellfish guideline value for faecal coliforms as indicated above.</p> <p>Chapter 3 of the Characterisation Report refers.</p>
Other issues	None
3.0 PRESSURES/RISKS	
3.1 Key Pressures	<p>Analysis of the Characterisation Report for this designated shellfish water suggests that the key pressure is on-site waste water treatment systems (OSWWTS).</p> <p>Chapter 5 (summary at 5.3) of the Characterisation Report refers.</p>
On-site waste water treatment systems	<p>There are 4,371 on-site waste water treatment systems in this catchment and their density is higher than the national average. The characterisation report indicates that a substantially smaller number are located within the coastal region of the catchment, which may have a direct impact on the shellfish area. The characterisation report also indicates that the hydrological condition of the majority of the catchment poses a risk to surface and groundwaters, the risk to surface and groundwaters from pathogens and phosphorus is high throughout the catchment as is the likelihood of inadequate percolation.</p> <p>In response to measures identified in the Pollution Reduction Programme to address OSWWTS pressures in the vicinity of the designated shellfish area Donegal County Council have</p> <ul style="list-style-type: none"> • carried out a survey using the GEODIRECTORY database and a map was prepared identifying the OSWWTS in the area adjoining the shellfish growing areas • carried out a desktop study of on-site wastewater treatment systems in the catchment of the shellfish area. <p>The European Court of Justice has ruled against Ireland in relation to on-site wastewater treatment systems (ref. Case C-188/08). The Court found that by failing to adopt the necessary legislation to comply with Articles 4 and 8 of Council Directive 75/442/EEC as regards domestic waste waters disposed of in the</p>

	<p>countryside through septic tanks and other individual waste water treatment systems, Ireland has failed to fulfil its obligations under that directive. To address the ruling, the Water Services (Amendment) Act 2012 was signed by the President on 02/02/2012. This Act introduces a new system of registration and inspection for septic tanks and other on-site waste water treatment systems. The Act also sets out the responsibilities of households served by those systems (including requirements to carry out remedial actions where necessary).</p>
3.2 Potential Secondary Pressures	<p>Agriculture Port activities</p>
Agriculture	<p>Estimates of fertiliser usage are lower than national averages but livestock densities are similar to the national average due to high numbers of sheep (2.6 LU per hectare compared to a national average of 1.5 LU per hectare). The prevalence of peat and other wet soils in the catchment and high slopes indicate high potential runoff risk.</p> <p>No pressures report received from Donegal County Council</p>
Port activities	<p>A ferry operates between Bunbeg and Tory Island. There is also 1 pier structure directly adjacent to the shellfish area and 8 additional pier structures within 5 kilometres.</p>
4.0 PROTECTED AREAS	
Designated Shellfish Areas	Gweedore Bay designated Shellfish Waters

5.0 ACTION PROGRAMME – MEASURES

5.1 Key Pressures

On-site waste water treatment plants

Donegal County Council were to identify systems directly adjacent to coastal waters and water courses as well as systems serving large populations and to undertake investigation of the likely extent of microbial contamination of Designated Shellfish Waters from adjoining dwellings. Section 70 of the Water Services Act 2007 places a duty of care on owners of septic tanks and provides local authorities with enforcement powers including prosecution to address any problems identified.

The Report on Possible Risks from On-Site-Wastewater Treatment Systems on Designated Shellfish Water Areas, received from Donegal County Council for the Gweedore Bay Designated Shellfish Water Area has been reviewed and it is considered that it would be prudent to implement additional measures, to those listed in the report, as follows to ensure compliance with the Pollution Reduction Programme requirements. Donegal County Council should

- a questionnaire should be used to assist with the assessment of the high risk areas adjacent to Shellfish Water Areas. The focus of the questionnaire should be to assess the possible microbial risk to the shellfish water area. Dwellings should be assessed to determine
 - (a) if there is some form of on-site treatment,
 - (b) if the system is properly functioning,
 - (c) if there are dwellings with no treatment
 - (d) if there are discharges to a sewer that discharges directly to the seashore
 - (e) if there is a good buffer zone of quality drainage and percolation between the system and the waterfront
- The need for on-site inspections based on the national implementation plan to be drawn up by the EPA should be factored into the overall risk based approach for inspections under the Water Services (Amendment) Act 2012.
- carry out an assessment of the dwellings directly adjacent to the foreshore to identify those systems that may be impacting on the shellfish water quality. investigations should be carried out to complete the risk assessment and to outline the full extent of the impact.
- Carry out a shoreline walking survey along the designated shellfish area to identify potential OSWWTS issues. Any potential issues should be followed up.
- Take samples from significant watercourses flowing directly into the shellfish area. Should these samples indicate any potential OSWWTS related issues, Small Stream Risk Score work, or other survey methods, should be carried out to help source the source of the problem
- Issue an advisory leaflet on management of OSWWTS to each dwelling inspected in the catchment

	<ul style="list-style-type: none"> • All new planning applications for dwellings to be served by on-site waste water treatment systems in the Local Authority Area should be required to demonstrate compliance with the EPA Code of Good Practice for Waste Water Treatment & Disposal Systems Serving Single Houses. This will minimise any potential risk of discharge of pathogens to the shellfish water from any new dwelling in the area. • follow up with a measures/enforcement programme to ensure compliance with the Pollution Reduction Programme requirements: <p>Gweedore, Bunbeg and Derrybeg have a large number of on-site waste water treatment systems. The provision of the proposed Gweedore Sewerage Scheme will aid in the decommissioning of many of these systems.</p>
5.2 Potential Secondary Pressures	
Agriculture	<p>NO Pressure Report received from Donegal County Council.</p> <p>At this time effective and targeted implementation of the Good Agricultural Practice Regulations is deemed sufficient to address this pressure. Donegal County Council to</p> <ul style="list-style-type: none"> • undertake assessment of farming activities in the vicinity of the shellfish growing waters • submit a report to the Minister and the relevant statutory authority on the possible risk of microbial contamination to the designated waters from adjoining agricultural lands, • submit a report on the measures / enforcement programme to be implemented. <p>The Minister and the relevant statutory authority undertake to review this report and take action in terms of additional measures if required</p>
Port activities	<p>Under the Prevention of Pollution at Sea Acts no ship is allowed to discharge within 3 miles of Gweedore Bay. The disposal of ship generated waste (including sewage and bilge water) is covered by the European Communities (Port Reception Facilities for Ship Generated Waste and Cargo Residues) Regulations 2003 (S.I 117/2003) (as amended). The disposal of ship generated waste is facilitated by the making of an application to the competent authority, disposal is arranged by the ships agent and conformity checking is carried out by the competent authority.</p>
Future Development	<p>Under Article 4 of the European Communities (Quality of Shellfish Waters) Regulations 2006 (S.I. No. 286 of 2006) (as amended), every public authority that has functions the performance of which may affect shellfish waters shall perform those functions in a manner that will promote compliance with the objectives of this pollution reduction programme and with the objectives of the Shellfish Waters Directive.</p> <p>The functions of particular importance – in light of the objectives of</p>

	<p>Directive 2006/113/EC and of this PRP – include waste water treatment (licensing and operations), implementation of the GAP Regulations, waste management (licensing and operations), effluent discharge licences, planning and development and building control.</p> <p>Continued monitoring will be carried out during the lifetime of the PRP. Should this monitoring identify pressures that are impacting on shellfish water quality in the designated area, the PRP will be appropriately amended.</p>
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Compliance with the Parameters set out in the Directive¹

The Directive prescribes the minimum ((Mandatory (I)) quality criteria which must be met by shellfish waters and guideline values (G) which Member States must endeavour to observe. Not all of the Parameters have both Guide and Mandatory values.

		Compliance with Mandatory Values (Y/N)	Compliance with Guide Values (Y/N)
Parameter 1	PH (I)	Y	
Parameter 2	Temperature (G)		Y
Parameter 3	Coloration (after filtration) (I)	Y	
Parameter 4	Suspended Solids (I)	Y	
Parameter 5	Salinity (I & G)	Y	Y
Parameter 6	Dissolved Oxygen (I & G)	Y	Y
Parameter 7	Petroleum Hydrocarbons (I)	Y	
Parameter 8	Organohalogens (I & G)	Y	Y
Parameter 9	Trace Metals (I & G)	Y	Y
Parameter 10	Faecal Coliforms (G)		Y

¹ Compliance for Parameters 1 to 7 - taken from 2011 monitoring results
 Compliance for Parameters 8 & 9 - taken from 2010 monitoring results
 Faecal Coliform compliance – 2012 monitoring results

Annex 1 - Mitigation Recommendations from the SEA process

The Strategic Environmental Assessment carried out for the Shellfish PRPs has highlighted potential positive and negative environmental impacts (including cumulative impacts) associated with implementation of the range of measures outlined in the National Toolkit of Measures, all of which are aimed at controlling pressures which impact on shellfish water quality.

In most cases, the PRPs identify the need for further investigation to supplement existing information on the types and extent of the pressures which are currently affecting shellfish water quality. Following this, the next step in the protection of shellfish waters will be the introduction of measures from the National Toolkit to address the identified pressures. It should be noted that this PRP is a dynamic document and will be updated regularly in order to outline if, and where, measures are required following the completion of the investigations.

The table below outlines the mitigation measures required to reduce potential impacts from measures in the National Toolkit associated with the key and potential secondary pressures currently identified for this catchment. When considering implementation of specific measures from the National Toolkit, it is required that the relevant mitigation measures below be considered to reduce any potential negative impacts (mitigation measures arising from the Habitats Directive Article 6 Assessment are noted in blue).

Should further key and secondary pressures be identified in this catchment in future, then the full list of mitigation measures, which is included in Table 4 of the National Toolkit, should be consulted to determine if any of those apply. In addition, the authority/organisation/individual responsible for implementing each of the mitigation measures below is listed in Table 4 of the National Toolkit.

	NATIONAL TOOLKIT MEASURE	ASSOCIATED MITIGATION MEASURE
WFD4	<p>POINT SOURCE & DIFFUSE SOURCE DISCHARGES</p> <p>Actions: Water Pollution Acts and regulations:</p> <ul style="list-style-type: none"> • License discharges to surface waters and sewers from small scale industrial and commercial sources. Review licenses at intervals of not less than 3 years. Keep registers of discharge licenses and make them available to the public. • Serve notices or directions on persons requiring measures to be taken in order to prevent or control pollution of waters, where necessary. • Notify Local Authorities of accidental discharges and spillages of polluting materials which enter, or are likely to enter, waters. <p>Actions: Water Services Act:</p> <ul style="list-style-type: none"> • Prepare and implement Water Services Strategic Plans. • Duty of care on owners of premises to ensure that treatment systems for wastewater are kept in good condition. <p>Actions: Planning and Development Act (unsewered systems)</p> <ul style="list-style-type: none"> • Permit on-site waste water treatment systems subject to site suitability assessment. <p>Other actions: Unsewered Systems:</p> <ul style="list-style-type: none"> • Amend Building Regulations to give effect to new codes of practice for single houses and large systems. 	<p>Detailed assessment of higher risk works will be required to include environmental considerations (based on EIA guidance). It is recommended that lower risk work should be compelled to consider environmental issues as part of the registration process.</p>
WFD5	<p>PHYSICAL MODIFICATIONS</p> <p>Actions required: physical modifications:</p> <ul style="list-style-type: none"> • Develop new morphology regulations creating a registration and authorisation system. <p>Actions: Planning and Development Act:</p> <ul style="list-style-type: none"> • Consider the morphological implications of developments as part of the planning process. 	<p>It is recommended that further environmental assessment is undertaken once measures are defined.</p>

<p>UP3</p>	<p>ON-SITE WASTE WATER TREATMENT SYSTEMS</p> <p>For new developments:</p> <ul style="list-style-type: none"> • At planning assessment stage, apply the GIS risk mapping / decision support system and codes of practice • Notice to planning authority required immediately prior to the installation of on-site effluent treatment systems including percolation areas and polishing filters. 	<p>The pre-planning process should assess whether Habitats Directive Assessment would be required for new development within or adjacent to a protected area.</p>
<p>UP5 to UP7</p>	<p>ON-SITE WASTE WATER TREATMENT SYSTEMS</p> <p>UP5: Enforce requirements for percolation.</p> <p>UP6: Enforce requirements for de-sludging.</p> <p>UP7: Consider connection to municipal systems.</p>	<p>UP5 & UP6: An education programme should be carried out in tandem with new requirements for tank maintenance, including guidance on disposal of sludges.</p> <p>UP6: Intelligent transport programmes should be put in place to minimise the amount of emissions associated with movement of sludges from on-site treatment systems.</p> <p>UP7: Upgraded treatment works should be required to introduce BAT, including the use of renewable energy sources, in order to reduce GHG emissions and others resulting from increased demand for treatment.</p> <p>UP6 & UP7: New wastewater treatment infrastructure, including sludge disposal infrastructure, will be subject to environmental assessment at the project level to reduce indirect impacts to biodiversity, landscape, cultural heritage and climate.</p> <p>UP7: A Habitats Directive Assessment will be required for new structures.</p>

**Note: It should be noted that in this case the term Habitats Directive Assessment refers to the assessment process as specified in Article 6 of the Habitats Directive. This starts with screening to determine whether a likely significant impact from the plan/programme is expected to occur to a Natura 2000/Ramsar site as a result of activities in/adjacent to/in the catchment of a Natura 2000/Ramsar site. If, in accordance with Habitats Directive Assessment guidance (guidance produced by the EU and DoEHLG in Ireland), it can be shown that there is no potential for impact at the screening stage, no further assessment may be required. However when the plan/programme being screened lies within or adjacent to a Natura 2000/Ramsar site then such a determination must be made in consultation with NPWS. If the plan/programme is within the catchment (surface and groundwater) of a Natura 2000/Ramsar site, such consultation with NPWS is only necessary for those water dependent Natura 2000 sites which are listed in the WFD Register of Protected Areas.*