

Malahide Pollution Reduction Programme



Name	Malahide Shellfish Area
Map number	32
Year of designation	2009
Area	36.3 km ²
River Basin District	Eastern RBD
County	Dublin
Location of sampling point	53 deg 27.394 min North (Lat) 6 deg 4.457 min West (Long)

Catchment area	376.66 km ²
Catchment area within 20 km zone	317.96 km ²

1.0 INTRODUCTION

"I, John Gormley, T.D., Minister for the Environment, Heritage and Local Government pursuant to the provisions of Section 6 of the European Communities (Quality of Shellfish Waters) Regulation 2006 (as amended) S. I. No. 268 of 2006, taking into account the public consultation process and the Strategic Environmental Assessment carried out under Directive 2001/42/EC, on the assessment of certain plans and programmes on the environment hereby establish the following pollution reduction programme for Malahide Bay".



Mr John Gormley TD
Minister for the Environment,
Heritage and Local Government

22/12/09
DATE

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 Malahide 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 Malahide has been established by the Minister for the Environment, Heritage and Local Government in order to protect and improve water quality in the designated shellfish growing areas in Malahide 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 Malahide. 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 2 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, Heritage 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, Heritage 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 Water Quality Section of the Department of the Environment, Heritage and Local Government.

The contact person is:

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2.0 STATUS/IMPACTS

Overall status	<p>The results of monitoring 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) indicate faecal contamination within / in the vicinity of this shellfish area.</p> <p>The results of WFD monitoring indicate that there are water quality issues with dissolved inorganic nitrogen levels within / in the vicinity of this shellfish area.</p> <p>Monitoring of shellfish flesh for food hygiene purposes indicates faecal contamination in this shellfish area. The bivalve mollusc production areas in Malahide are classified as 'Class B' for the purposes of EC Regulation 854/2004.</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 pressures are urban wastewater systems and on-site waste water treatment systems.</p> <p>Chapter 5 (summary at 5.3) of the Characterisation Report refers.</p>
Urban wastewater systems	<p>Malahide Portrane/Donabate Swords</p>
On-site waste water treatment systems	<p>There are 5,181 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 waters, the risk to surface waters from pathogens is high throughout the catchment as is the likelihood of inadequate percolation.</p> <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</p>

	<p>Articles 4 and 8 of Council Directive 75/442/EEC as regards domestic waste waters disposed of in the 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 Department of the Environment, Heritage and Local Government will be bringing forward legislation in the first half of 2010. It is intended that the legislation will provide for the setting of standards for the performance and operation of all septic tanks and similar on-site wastewater treatment systems. The legislation will also provide for the monitoring and inspection of the performance of such treatment systems and will set out the responsibilities of households served by those systems (including requirements to carry out remedial actions where necessary). In order to ensure prompt compliance with the Court ruling, it is intended that this legislation will be in place by Q3 2010.</p>
3.2 Potential Secondary Pressures	Agriculture
Agriculture	Estimates of fertiliser usage are higher than the national averages. Areas of wet soil types in the catchment mean that there is a potential risk of agricultural runoff.
4.0 PROTECTED AREAS	
Designated Shellfish Areas	Malahide designated Shellfish Waters

5.0 ACTION PROGRAMME – MEASURES

5.1 Key Pressures

Urban Wastewater Systems

Overview:

A system for the licensing or certification by the EPA of waste water discharges from areas served by local authority sewer networks was established in accordance with the requirements of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

In accordance with these Regulations the EPA is not allowed to grant an authorisation for a waste water discharge, which, in the opinion of the EPA, would:

- cause a deterioration in the chemical status or ecological status (or ecological potential as the case may be) in the receiving body of surface water,
- exclude or compromise the achievement of the objectives established for protected species and natural habitats in the case of European sites where the maintenance or improvement of the status of water is an important factor in their protection or which is inconsistent with the achievement of environmental quality standards established under national Regulations in relation to designated bathing waters, designated shellfish waters, areas designated for the protection of freshwater fish and areas designated for the abstraction of water intended for human consumption.

The requirements of the European Communities (Quality of Shellfish Waters) Regulations, 2006 (as amended) have been fully integrated into the EPA licensing process. In addition this process takes into account the effect of viruses on the quality of shellfish waters. The licence will require detailed actions including infrastructural works, if required, by the licensee within specified time-frames if the discharge does not comply with the above Regulations. Each licence granted will be subject to enforcement by the EPA. Full details of each application and licence decision can be viewed online at www.epa.ie.

The following is the position with the key waste water treatment plants for Malahide:

Malahide - Secondary treatment with nutrient removal and UV disinfection WWTP in place

The scheme is included in the current Water Services Investment Programme 2007-2009. A licence application was made by Fingal County Council in December 2007 pursuant to the requirements of the Waste Water Discharge (Authorisation) Regulations, 2007

Portrane/Donabate - secondary treatment WWTP in place

The scheme is included in the current Water Services Investment Programme 2007-2009. Expansion of scheme to 65,000 P.E. underway.

The EPA issued a waste water discharge licence on the 30th of

	<p>October 2009. Conditions 5.6 and 5.7 of the licence state that a microbiological quality assessment of the shellfish in the designated shellfish area shall be carried out by April 2011 (this time period is required to allow a comprehensive study to be completed) and that any required appropriate measures shall be implemented within a timeframe agreed by the EPA. A summary report on the ambient water quality monitoring is also required.</p> <p><u>Swords</u> - secondary treatment plus nutrient removal WWTP in place A licence application was made by Fingal County Council in December 2007 pursuant to the requirements of the Waste Water Discharge (Authorisation) Regulations, 2007.</p> <p>In the cases above, compliance with any EPA Wastewater Discharge Authorisation will require detailed actions, including infrastructural works, if required, by the licensee within specified time-frames if the discharge does not comply with the above Regulations. Each licence granted will be subject to enforcement by the EPA. The financial investments to ensure compliance with any EPA licence conditions requiring additional urban waste water collection or treatment can be made under the Water Services Investment Programme.</p>
On-site waste water treatment systems	<p>Fingal County Council to identify systems directly adjacent to estuarine and coastal waters and water courses as well as systems serving large populations. Fingal County Council to undertake investigation of the likely extent of microbial contamination of Designated Shellfish Waters from adjoining dwellings and Section 4 licensed activities under the Water Pollution Acts and by not later than end December 2010 to submit a report to the Minister and the relevant statutory authority on the microbial risk to shellfish waters and the measures / enforcement programme to be implemented under the Water Pollution Acts and section 70 of the Water Services Act 2007. Section 70 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 Minister and the relevant statutory authority undertake to review this report and take action in terms of additional measures if required.</p>
5.2 Potential Secondary Pressures	
Agriculture	<p>At this time effective and targeted implementation of the Good Agricultural Practice Regulations is deemed sufficient to address this pressure. Fingal County Council to undertake inspection and assessment of farming activities in the vicinity of the shellfish growing waters and, by not later than end December 2010 to 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, as well as a report on the measures / enforcement programme to be implemented. The Minister and the relevant statutory authority undertake to review this report and take action in terms of additional measures if required.</p>

<p>Future Development</p>	<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 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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Annex 1

Water Services Authority	Agglomeration Name	Registration Number	Population Equivalent	Status
Fingal County Council	Malahide	D0021-01	> 10,000	Under Assessment
Fingal County Council	Portrane/Donabate	D0114-01	2,000- 10,000	Licensed
Fingal County Council	Swords	D0024-01	> 10,000	Under Assessment

Annex 2 - 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>Other actions: Urban Wastewater Treatment Plants:</p> <ul style="list-style-type: none"> • Measures for improved management: keep register of plant capacity and update annually; install facilities to monitor influent loads and effluent discharges in accordance with Environmental Protection Agency guidelines and best practice; put auditable procedures in place to monitor compliance of licensed discharges; implement training procedures for staff involved with licensing of discharges; monitor receiving water quality upstream and downstream of the point of discharge. • Optimise treatment plant performance by the implementation of a performance management system. • Revise existing Water Pollution Act industrial licence conditions and reduce allowable pollution loading. • Review existing Industrial Pollution Prevention Control licence conditions and reduce allowable pollution load. • Investigate contributions to the collection system from unlicensed discharges. • Investigate contributions to the collection system of specific substances known to impact ecological status resulting from licensed and unlicensed discharges and issue or revise licenses to reduce or remove such specific substances in the discharge. 	<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>

	<ul style="list-style-type: none"> • Upgrade plant to increase capacity where necessary. • Upgrade plant to provide nutrient removal treatment where necessary. <p>Actions: Wastewater Discharge Authorisation Regulations:</p> <ul style="list-style-type: none"> • License large Local Authority WWTPs and certify smaller WWTPs as specified in the Regulations (taking account of WFD objectives). Review licenses at intervals not less than 3 years. Enforce compliance with WWTP licensing conditions. Maintain a register of WWTP licences and certificates and make available on request. Inform other relevant public authorities when an application or review is received. <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>WW1</p>	<p>WASTE WATER TREATMENT PLANTS</p> <p>Measures intended to reduce loading to the treatment plant:</p> <ul style="list-style-type: none"> • Limit or cease the direct importation of polluting matter (e.g. liquid wastes, landfill leachate, sludges). • Investigate the extent of use and impact of under-sink food waste disintegrators and take appropriate actions. • Investigate fats/oils/grease influent concentrations and take actions to reduce FOG entering the collection system. 	<p>This measure should be accompanied by an education and awareness campaign for householders and commercial premises aimed at reducing pollution at source. This campaign should include information on the use and disposal of household chemicals, oils, detergents, paints, solvents, etc as well as information on phosphorus-related pollution. Consideration should also be given to targeting specific audiences on issues such as discharges to water and the importance of wetland sites to water quality.</p> <p>This measure will require project level Habitats Directive Assessment if alternative facilities for treatment of waste are constructed, e.g. incinerator.</p>

WW2	WASTE WATER TREATMENT PLANTS Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants.	This measure will need to link to the development planning process, e.g. by including a requirement to address wastewater capacity as part of the scope in any accompanying SEA for development plans. This measure will need to consider whole catchment loading.
WW6 to WW9	WASTE WATER TREATMENT PLANTS WW6: Where necessary to achieve water quality objectives install secondary treatment at smaller plants where this level of treatment would not otherwise be required under the urban wastewater treatment regulations. WW7: Apply a higher standard of treatment (stricter emission controls) where necessary. WW8: Upgrade the plant to remove specific substances known to impact on water quality status WW9: Install ultra-violet or similar type treatment.	WWG to WW9: Negative impacts on climate associated with GHG emissions related to additional energy requirements for these measures should be offset by use of renewable energy sources or similar. WW6 to WW9: If these alternatives involve the building of a new plant or an extension to an existing plant a Habitats Directive Assessment will be required. Prior to any proposals for a new plant, further investigation will be required to show that a new plant will have the desired improvements in water quality for which it is being built. WW6 to WW8: If additional landtake is required for these measures, environmental studies will be undertaken to assess the impact on the environment. WW9: A Habitats Directive Assessment will be required prior to introduction of UV or similar treatment when the discharge is within or adjacent to a protected area.
WW10	WASTE WATER TREATMENT PLANTS Relocate the point of discharge.	A Habitats Directive Assessment will be required to demonstrate that the relocation will not negatively impact on protected areas.
UP3	ON-SITE WASTE WATER TREATMENT SYSTEMS For new developments: <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. 	The pre-planning process should assess whether Habitats Directive Assessment would be required for new development within or adjacent to a protected area.

<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>
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**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.*