

QUOILE

Local Management Area Information Leaflet



Information Leaflet - Quoile Local Management Area

The River Basin Management Plans will be implemented through Local Management Areas (LMAs) during the 2010 to 2015 planning cycle. This information leaflet is one of a series, for each of the 26 LMAs, across the Neagh Bann, North Western and North Eastern Districts. The leaflet includes details of the characteristics and quality of the water environment within the area and specific local measures identified to improve the water environment.

The leaflet will inform work with stakeholders, through **Catchment Stakeholder Groups**, to develop focused implementation plans for each LMA in the North Eastern District. These LMA Plans will be implemented on a three-year rolling programme within the North Eastern District as set out below:

- South Down, Strangford, Lagan and Bush in 2010;
- Quoile, Belfast Lough and Glens & Rathlin in 2011;
- Larne Lough in 2012.

Introduction

Quoile LMA is in the North Eastern River Basin District and covers an area of approximately 245km². The catchment has two differing headwaters; Glaswater River rising around Saintfield town to the north and Ballynahinch River, northwest of Ballynahinch. Ballynahinch River flows southward through Ballynahinch towards its confluence with Glaswater River at Kilmore where it becomes the Annacloy River. The river then turns east and flows north before Downpatrick where it becomes the Quoile River which flows into the Quoile Pondage. This is an impoundment created by the Quoile Barrage. The Barrage was constructed in 1957 to prevent flooding in the Downpatrick area and refurbished in 2007. It marks the boundary between the fresh and saline waters although the pondage is subject to saline intrusion and is considered transitional. Please note that the Quoile Pondage is actually located in Strangford LMA and is detailed in the information leaflet for that area.

The major towns in Quoile LMA include Downpatrick, Saintfield, Ballynahinch and Crossgar with smaller towns of Annahilt and Annacloy. The main land cover is represented by improved grassland, with a small amount of arable horticulture and neutral grass. The area has a range of habitats that have protected status and is a National Nature Reserve. It also supports a range of recreational activities such as bird watching, walking, angling, tourism, canoeing and yachting.

Key Facts

LMA area: 245km²

WFD water bodies

11 river water bodies
1 transitional water body
1 groundwater body

Main land use:

Agriculture (Improved grassland and Arable 64%)
Neutral grass 13%

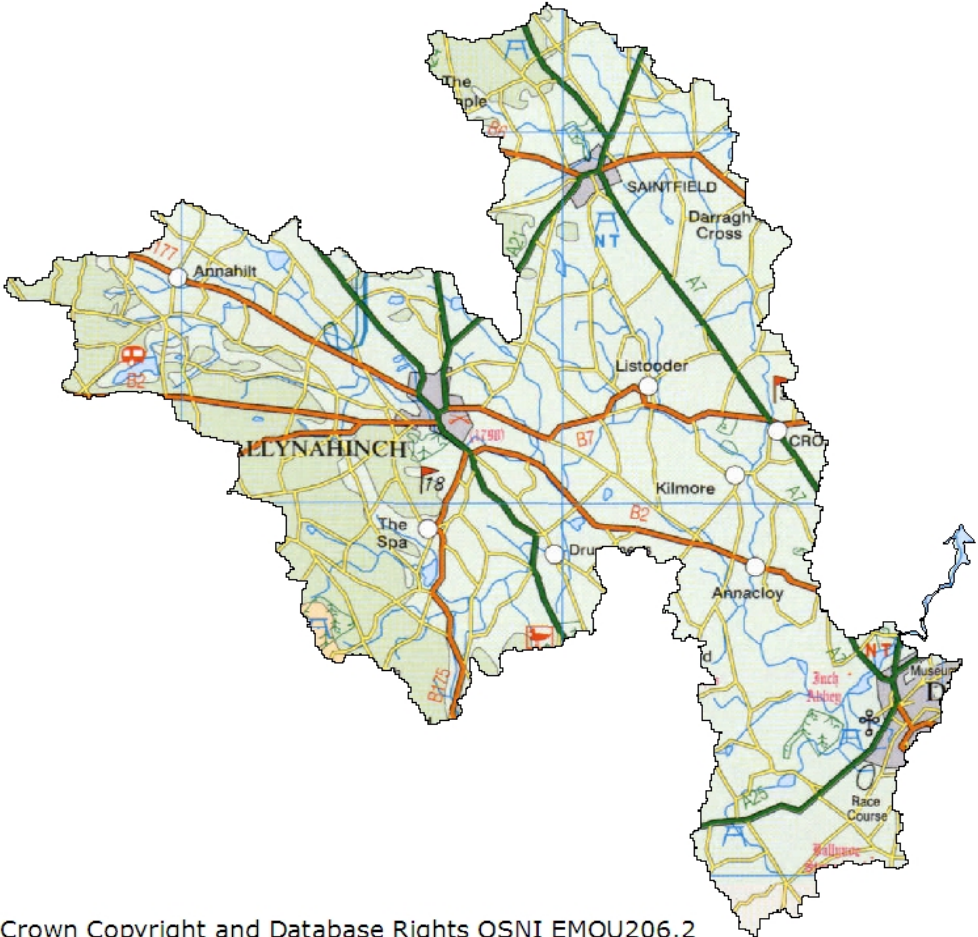
Key industries:

Agriculture

Main towns and populations:

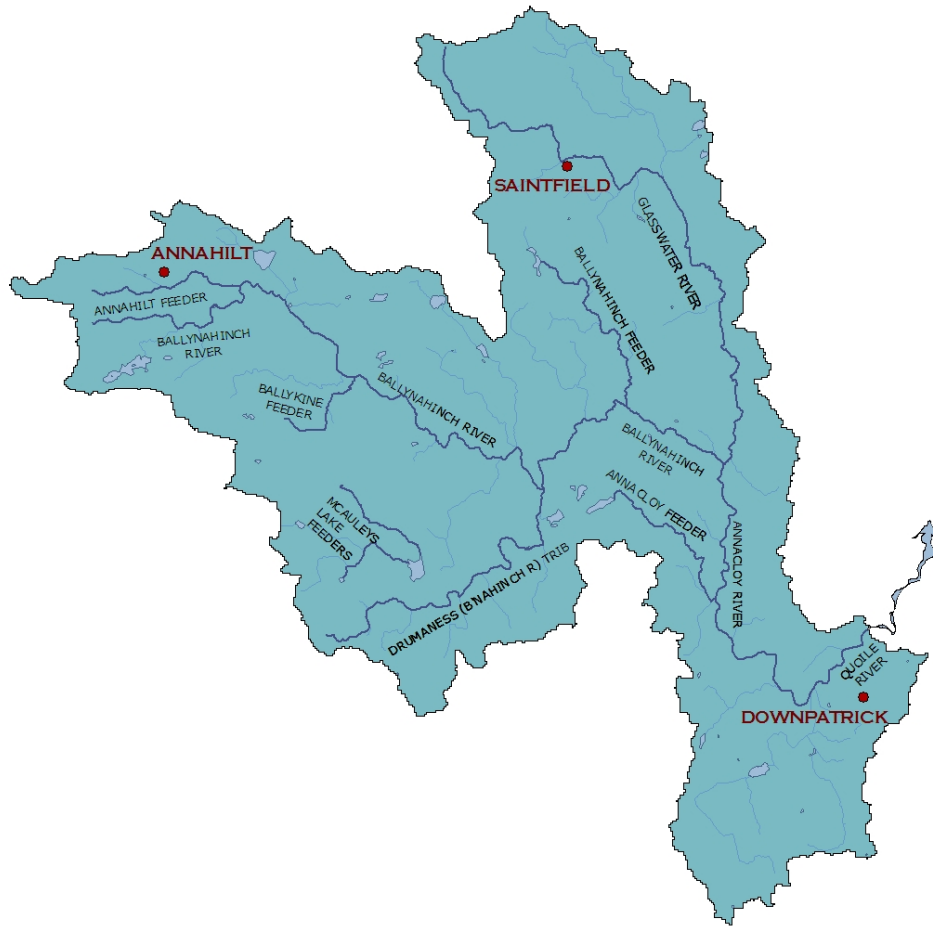
Downpatrick (10316*)
Ballynahinch (5364*)
Saintfield (2959*)
Crossgar (1539*)
Annahilt (1148*)

*Figures based on 2001 census



© Crown Copyright and Database Rights OSNI EMOU206.2

Quoile LMA with main rivers identified



The quality of water bodies in Quoile LMA

Our understanding of the state of Northern Ireland’s water environment and Quoile LMA has developed as we have adapted to the requirements of the Water Framework Directive. Now, when assessing water quality, we consider both ecological and chemical quality, as well as the pressures that can affect them.

Some water bodies have been changed to such a degree that they can no longer be restored to their original condition without compromising their current use. For example, some have been deepened to allow for navigation, others have flood defences or have been dammed to provide a source of drinking water. These are called Heavily Modified or Artificial water bodies and are required to meet Good Ecological Potential (GEP) rather than good status.

In Quoile LMA, Quoile Estuary has been designated as heavily modified.

What is the current status of surface waters in Quoile LMA?

100% of surface water bodies in Quoile LMA have been classified as less than good status and 8.3% of these have been identified as heavily modified. Most of the rivers failed to achieve good status due to impacts on invertebrate communities and elevated phosphorous levels. In the case of the transitional water body the downgrading was due to low dissolved oxygen levels.

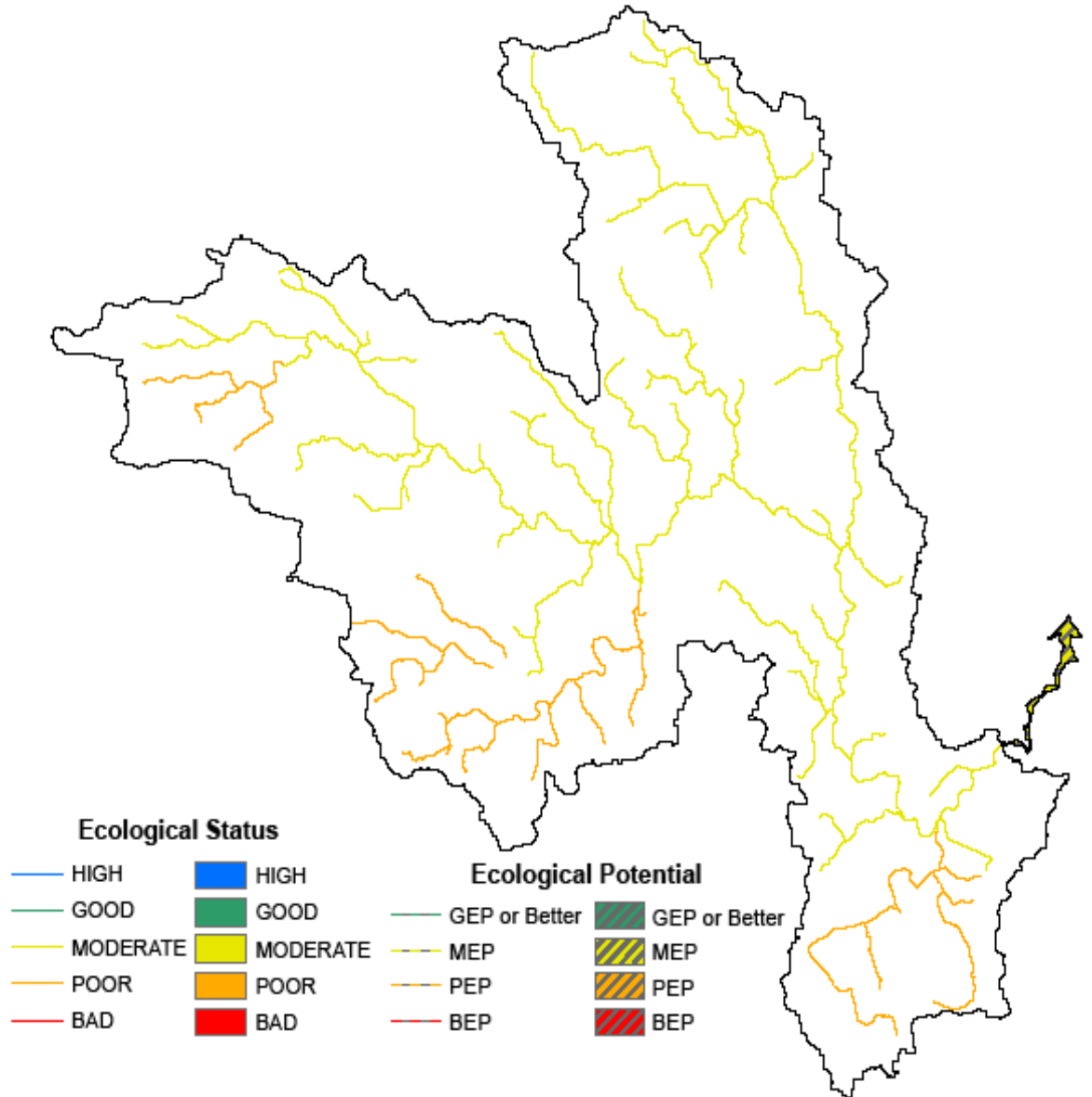
Table 1: Status of surface waters in Quoile LMA

Water body type	High	Good	Moderate	Poor	Bad	GEP	MEP	PEP	BEP
River	0	0	7	4	0	0	0	0	0
%	0	0	63.6	36.4	0	0	0	0	0
Transitional	0	0	0	0	0	0	1	0	0
%	0	0	0	0	0	0	100	0	0
Total Surface Waters	0	0	7	4	0	0	1	0	0
%	0	0	58.3	33.3	0	0	8.3	0	0

Groundwaters (underground water) interact with the surface waters around them, thus the quality and quantity of an area’s groundwater can affect the surface waters.

All groundwater bodies in Quoile LMA are achieving good status.

Overall status of water bodies in Quoile LMA



Protected areas in Quoile LMA

The LMA supports important habitats and wildlife. These areas have been designated under European Directives and require special protection. The protected areas are summarised in the following table.

Table 2: Protected areas in Quoile LMA

Protected Area Type	Location
Waters used for the abstraction of drinking water (drinking water protected areas)	There is 1 drinking water protected groundwater.
<p>Areas designed to protect economically significant aquatic species</p> <p>Freshwater Fish Directive (78/659/EEC)</p> <p>Shellfish Waters Directive (79/923/EC)</p>	<p>There are 71 km of rivers identified under the Freshwater Fish Directive, all designated Salmonid.</p> <p>There are no designated shellfish waters.</p>
<p>Bathing Waters</p> <p>These are bathing waters identified under the Bathing Waters Directives (76/160/EEC)</p>	There are no identified bathing waters.
<p>Nutrient Sensitive Areas</p> <p>Areas designated as sensitive under the Urban Waste Water Treatment Directive (91/271/EEC) and the Nitrates Directive (91/676/EEC)</p>	<p>There is 1 Urban Waste Water Treatment Directive sensitive areas: Quoile Pondage.</p> <p>A total territory approach has been adopted in Northern Ireland for the Nitrates Directive.</p>
<p>Areas designated for the protection of habitats or species (Natura 2000 sites)</p> <p>These are areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection.</p> <p>Habitats Directive (92/43/EEC)</p> <p>Birds Directive (79/409/EEC)</p>	<p>There are 5 water dependent Special Areas of Conservation; Aughnadarragh, Ballykilbeg, Hollymount, Lecale Fens and Strangford Lough.</p> <p>There is 1 water dependent Special Protection Area; Strangford Lough.</p>

Why are some waters not reaching good status?

There are a number of pressures that may prevent some waters reaching good quality. The main ones are considered to be:

- **Abstraction and flow regulation**
- **Diffuse and point source pollution**
- **Changes to morphology (physical habitat)**
- **Invasive alien species**

Quoile Estuary has been identified as affected by **abstraction and flow regulation** and is a heavily modified water body due to flood risk management. No other water bodies in the area were identified as being impacted by abstraction and flow regulation.

A number of biological and chemical elements can be affected by both **diffuse and point source pollution**.

Table 3: Water bodies not reaching good status due to diffuse and point source pollution

Classification element affected*	Number of water bodies showing impacts	
	River	Transitional
Macrophytes	3	N/A
Diatoms	1	N/A
Phytoplankton	N/A	N/A
Macroalgae	N/A	N/A
Angiosperms	N/A	N/A
Invertebrates	6	0
Fish	1	0
DIN	N/A	0
Phosphorous	8	N/A
Dissolved Oxygen	4	1
Specific Pollutants/Priority Substances	1	0

*More than one element may be affected in each individual water body.

In Quoile LMA the main impacts were observed in phosphorous levels, specific pollutants/priority substances (specifically ammonia) and in macrophyte and diatom communities. These elements are associated with nutrient enrichment. The main rivers affected were: Glaswater River, Carson's Dam River, Annacloy River, Quoile River, Ballynahinch River Tributary, Listooder Stream and Drumaness River.

There was also evidence of organic enrichment within the catchment. Impacts were observed in invertebrate communities and dissolved oxygen levels. The main rivers affected were: Ballynahinch River Tributary, Annacloy River, Drumaness River, Listooder Stream and Quoile River.

In Quoile Estuary the main impact was seen in dissolved oxygen which is associated with organic enrichment and may also be influenced by morphological effects.

Three river water bodies were identified as being affected by **changes to morphology (physical habitat)**. Reasons for these changes include urban development.

The water environment in Northern Ireland has been impacted by the introduction of **invasive alien species**. Species which have already become established in this area include:

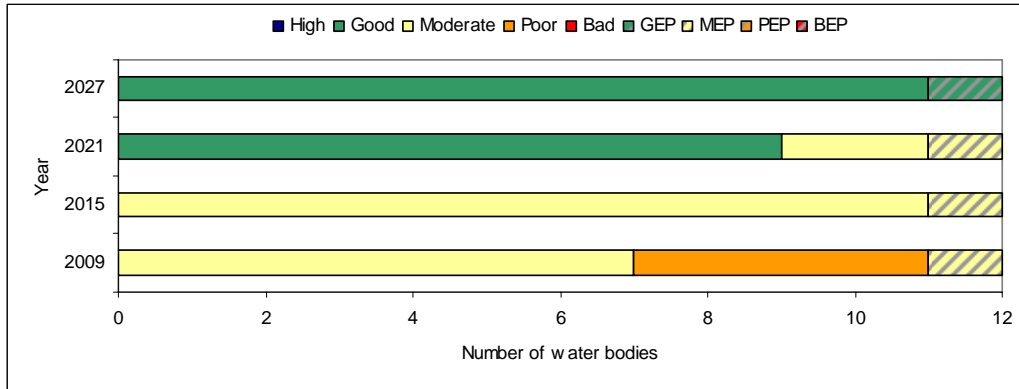
- Japanese Knotweed (*Fallopia japonica*)

What improvements do we plan to achieve?

We have set environmental objectives to deliver improvements as shown below. We aim to achieve good status or better in 75% of our surface waters by 2021 and GEP (for Heavily Modified Water Bodies) in 8.3% of our surface water bodies by 2027.

We aim to maintain good status in 100% of our groundwaters.

Current status and proposed objectives for surface waters in Quoile LMA



How are we going to maintain and improve the water environment in the Quoile LMA?

There are a number of measures which will be implemented in Quoile LMA in order to maintain and improve the water environment.

The programme of measures described in the Neagh Bann River Basin Management Plan has been categorised into two types of measures: **existing and planned** and **supplementary**. Existing and planned measures aim to ensure that existing water uses are appropriately managed and that the water environment remains at good status.

Existing and planned measures include those which have been put in place to meet legal requirements. Those which apply in this LMA include:

- The Birds Directive (79/409/EEC);
- The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC);
- The Environmental Impact Assessment Directive (85/337/EEC);
- The Urban Waste-water Treatment Directive (91/271/EEC);
- The Plant Protection Products Directive (91/414/EEC);
- The Nitrates Directive (91/676/EEC);
- The Habitats Directive (92/43/EEC); and
- The Integrated Pollution Prevention Control Directive.

A number of **other existing and planned measures** apply in this LMA:

- Cost recovery for water use and promotion of efficient and sustainable water use;
- Protection of drinking water sources;
- Abstraction and impoundment control;
- Point source and diffuse source discharge control;
- Controls on physical modifications to surface waters;
- Prevention or reduction of the impact of accidental pollution incidents;
- Authorisation of discharges to groundwater;
- Priority substances control and
- Controls on other activities impacting on water status.

Further information on existing and planned measures for each sector is available on the **programme of measures** section of the website.

The following measures are in place to manage the problems with alien species:

- Rivers Agency Management protocols (Japanese Knotweed)
- NIEA/National Parks and Wildlife Service best practice management guidance for Japanese Knotweed.
- A number of codes of practice, educational and awareness leaflets have been prepared and are available to download from www.invasivespeciesireland.com

What measures are agreed for water dependent Natura 2000 sites in unfavourable condition?

Special Areas of Conservation (Habitats Directive) and **Special Protection Areas** (Birds Directive) are assessed as being in favourable or unfavourable condition. These areas have been examined to determine if **water dependent features** are present.

Aughnadarragh and Ballykilbeg Special Areas of Conservation are in favourable condition. There are no specific measures for the Hollymount and Lecale Fens Special Areas of Conservation as there are no water related adverse activities causing the unfavourable condition assessment of the water dependent features. Strangford Lough SAC is in unfavourable condition.

Table 4: Measures for water dependent features of Special Areas of Conservation

Name	Current condition assessment of water dependent features	Measures in place
Strangford Lough	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) unfavourable due to invasive species (including bracken or scrub)	<i>Spartina</i> management
	Reefs unfavourable due to game or fisheries management (e.g. introduction of stock at too high a level, over-zealous cutting of river banks, bait digging)	Specific action plans exist
	Perennial vegetation of stony banks	<i>Spartina</i> management
	<i>Salicornia</i> and other annuals colonising mud and sand unfavourable due to invasive species (including bracken or scrub)	<i>Spartina</i> management

Strangford Lough Special Protection Area is in favourable condition. Further details on Special Areas of Conservation and Special Protection Areas in the Lough Neagh LMA are available in the **protected areas** section of the website.

Supplementary measures required to achieve environmental objectives for rivers, lakes, transitional and coastal waters bodies have been identified for a number of sectors and pressures in this LMA. Supplementary measures will be applied during the implementation phase of the River Basin Management Plans subject to necessary funding and tests to justify technical feasibility and cost effectiveness.

Table 5: Supplementary measures in Quoile LMA

Key sectors	Supplementary measures	Additional Information
Agriculture	Target education, advice and regulatory action	See Table 3 for number of water bodies where invertebrates are less than good
Collection & treatment of sewage	Assess significance of septic tanks and take action accordingly	See Table 3 for number of water bodies where invertebrates are less than good
	Upgrade WWTW under the Rural Wastewater Investment Programme	¹ Kilmore to be completed by 2010
	Upgrade WWTW with a population equivalent greater than 250	² Downpatrick WWTW upgrade under PC10
	Upgrade sewer network	² Upgrades to Downpatrick sewer network under PC10
Industry & other business	Improve compliance with discharge consents	There is 1 non-compliant discharge, based on 2008 compliance data
Agriculture, Collection & treatment of sewage Industry & other business	Assess point source phosphorus loads	See Table 3 for number of water bodies where SRP, diatoms or macrophytes are less than good
	Target further phosphorus controls from point sources	
	Assess diffuse nutrient loads using mathematical modelling	
	Target further phosphorus controls from diffuse sources	
Pressures	Supplementary measures	Additional Information
Specific & priority substances	Develop and implement Pollution Reduction Programmes	See Table 3 for number of water bodies impacted by specific pollutants/priority substances
Abstraction & flow regulation Morphology	Develop mitigation measures identified for hydromorphology pressures	There is 1 HMWB at <GEP and 3 water bodies are affected by changes to morphology
Pressure Unknown	Carry out further investigation	There are 8 water bodies where confidence in class is low.
Invasive alien species	Deliver education and awareness campaigns. Eradicate invasive alien species, where possible	

¹ Dates/WWTW upgrades may be subject to change

² PC10 covers the period April 2010 – March 2013

Responses from the draft River Basin Plan consultation were used to identify the measures below:

- promote efficient use of water;
- introduce seasonal discharge consents, where possible, to promote installation of reed beds and constructed wetlands for sewage treatment;
- improve septic tank maintenance, installation and design;
- review and investigate the effectiveness of wetlands in the reduction of nutrient loadings; and
- facilitate River Trusts across Northern Ireland.

The improvements in water quality proposed above will be delivered through a programme of measures, coordinated by the Department of the Environment. Some of these measures are already being applied in the LMA

Local measures are also being applied in this LMA. There are a number of projects and initiatives run, for example, by local communities, angling groups and voluntary environmental organisations that will contribute to achieving the objectives we have set for our waters. Some of those happening in the Quoile LMA are shown below.

Quoile Catchment Working Group:

- A sub-group of the Strangford and Lecale Catchment Stakeholder Group was set up following a significant fish kill in the Quoile River system at the end of August 2008. The Quoile Catchment Working Group is co-ordinated by NIEA and is made up of a series of local interest groups and government department and agency staff. The Group's aims are to improve the understanding of water quality issues in the Quoile Catchment, to identify water quality objectives for this heavily modified water body and to identify possible management and / or mitigation measures to prevent fish kills in the future.
- NIEA have been working to identify problem stretches of the Quoile and its tributaries. Catchment investigations into water management and pollution problems are being carried out by NIEA staff. A number of issues have been identified and NIEA staff are working to resolve these with other government departments and agencies.

National Trust

- Actions/plans to bring Natura 2000 sites and Areas of Special Scientific Interest towards favourable condition by 2015 for sites in National Trust ownership. The actions are ongoing and include Strangford Lough (Strangford Lough Special Area of Conservation, Special Protection Area & Ramsar site).
- Environmental Compliance Audit of all National Trust owned sites. Emergency remedial action has been completed. Action on the remaining assets presenting a risk to water quality completed or in progress. Issue a code of practice to septic tank users. Sites include Rowallane Garden.

- Ongoing advice to farm tenants on resource management, waste control and environmental performance. Encouraging tenants to adhere to best practice for pollution control. Sites include Rowallane Garden.
- Control of invasive species on National Trust Land. Participation in invasive species control forums and provide advice on good practice in invasive species control. Ongoing at Rowallane.
- Audit of water use at all National Trust sites to establish a baseline then set targets for reduction and introduce water efficiency measures. Ongoing at Rowallane Garden.
- Promoting the importance of water and its efficient use to our supporters through information, campaigns and events. Planned but likely to include Rowallane.

If you are running a project or carrying out work that will assist in protecting the water environment or water dependant features, or restoring natural waters then we would encourage you to let us know.

Contact details for your **Catchment Stakeholder Group** are available on the **public participation** section of the website.

Our aim is to protect, conserve and promote the natural environment and built heritage for the benefit of present and future generations.

Northern Ireland Environment Agency
Water Management Unit
17 Antrim Road
Lisburn
BT28 3AL



An Agency within the Department of the
Environment
www.doeni.gov.uk



**INVESTORS
IN PEOPLE**