

## STRANGFORD

### Local Management Area Information Leaflet



## **Information Leaflet - Strangford 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**

Strangford LMA is in the North Eastern River Basin District and covers an area of approximately 885km<sup>2</sup>. The main rivers are River Blackwater (Ards) and Enler. Numerous smaller rivers and streams exist throughout the area all entering Strangford Lough at various points. Strangford Lough itself is a large shallow sea lough with an indented shoreline that contains extensive areas of mudflats, sandflats, saltmarshes as well as a rocky coastline. It is one of the most important marine sites within Europe and is the only designated Marine Nature Reserve in Northern Ireland. There are a number of additional designations giving protection to the environmental features of this unique area. The area also includes economically significant shellfish waters. It is an Area of Outstanding Natural Beauty and supports a wide range of recreational activities including walking, sailing, diving and tourism.

The land usage is predominantly improved grassland, along with arable farming. The largest towns include Newtownards, Dundonald, Comber and Downpatrick. There are also numerous smaller towns and villages scattered throughout the area.



**Key Facts**

**LMA area:** 885km<sup>2</sup>

**WFD water bodies:**

- 14 river water bodies
- 1 lake water body
- 4 coastal water bodies
- 3 groundwater bodies

**Main land use:**

Agriculture (Improved grassland and arable 68%)

**Key industries:**

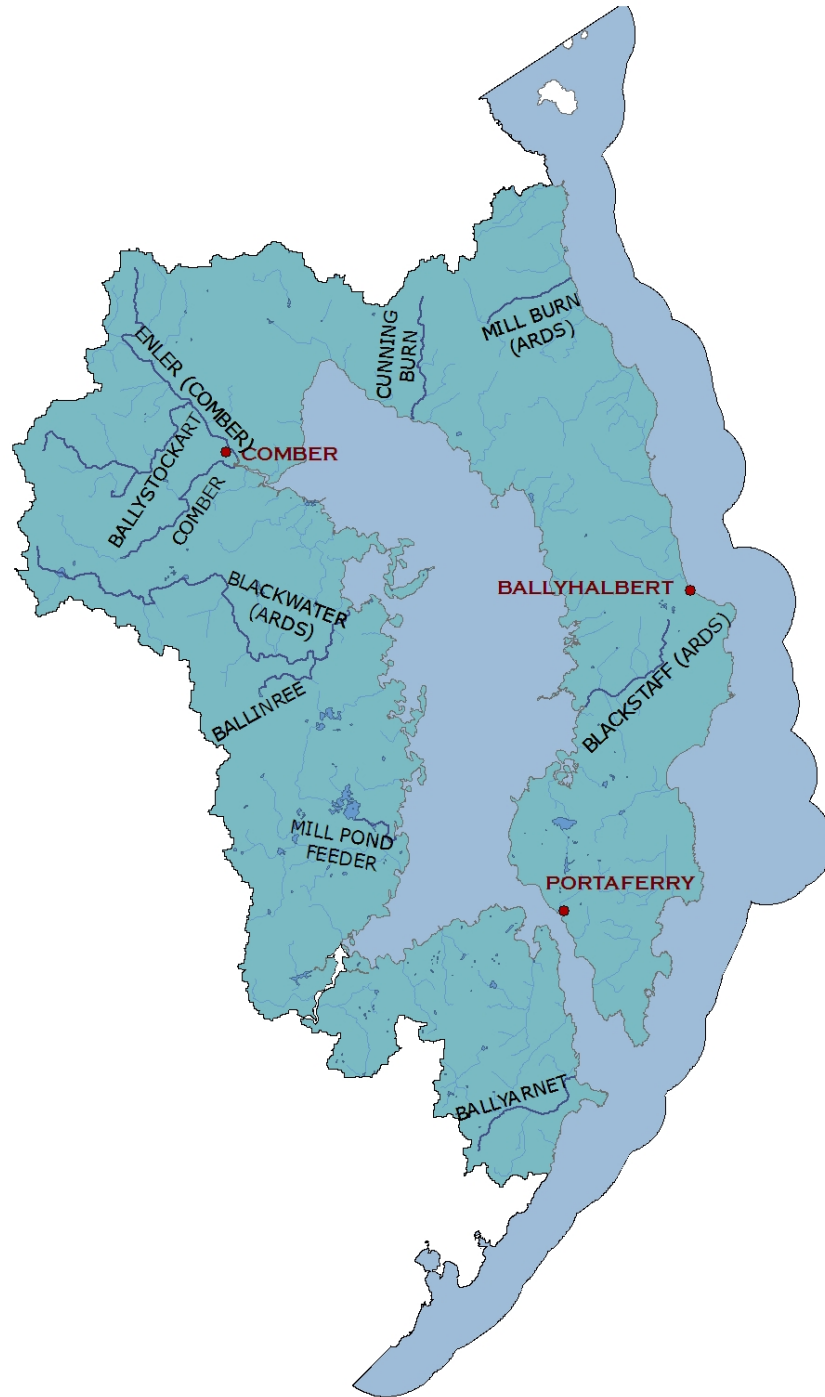
- Agriculture
- Tourism
- Fishing
- Marine Transport
- Fisheries

**Main towns and populations:**

- Newtownards (27821\*)
- Downpatrick (10316\*)
- Comber (8933\*)
- Portaferry (2467\*)

\*Figures based on 2001 census.

**Strangford LMA with main rivers identified**



## The quality of water bodies in Strangford LMA

Our understanding of the state of Northern Ireland's water environment and Strangford 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 Strangford LMA, Enler River and Cully's Burn have been designated as heavily modified.

### What is the current status of surface waters in Strangford LMA?

94.8% of surface waters in Strangford LMA have been classified as less than good status and 10.6% of these were identified as heavily modified. Most rivers and lakes failed to achieve good status due to impacts on invertebrate communities and elevated phosphorous levels. For coastal waters the main reasons for downgrading were elevated levels of inorganic nitrogen and impacted phytoplankton communities.

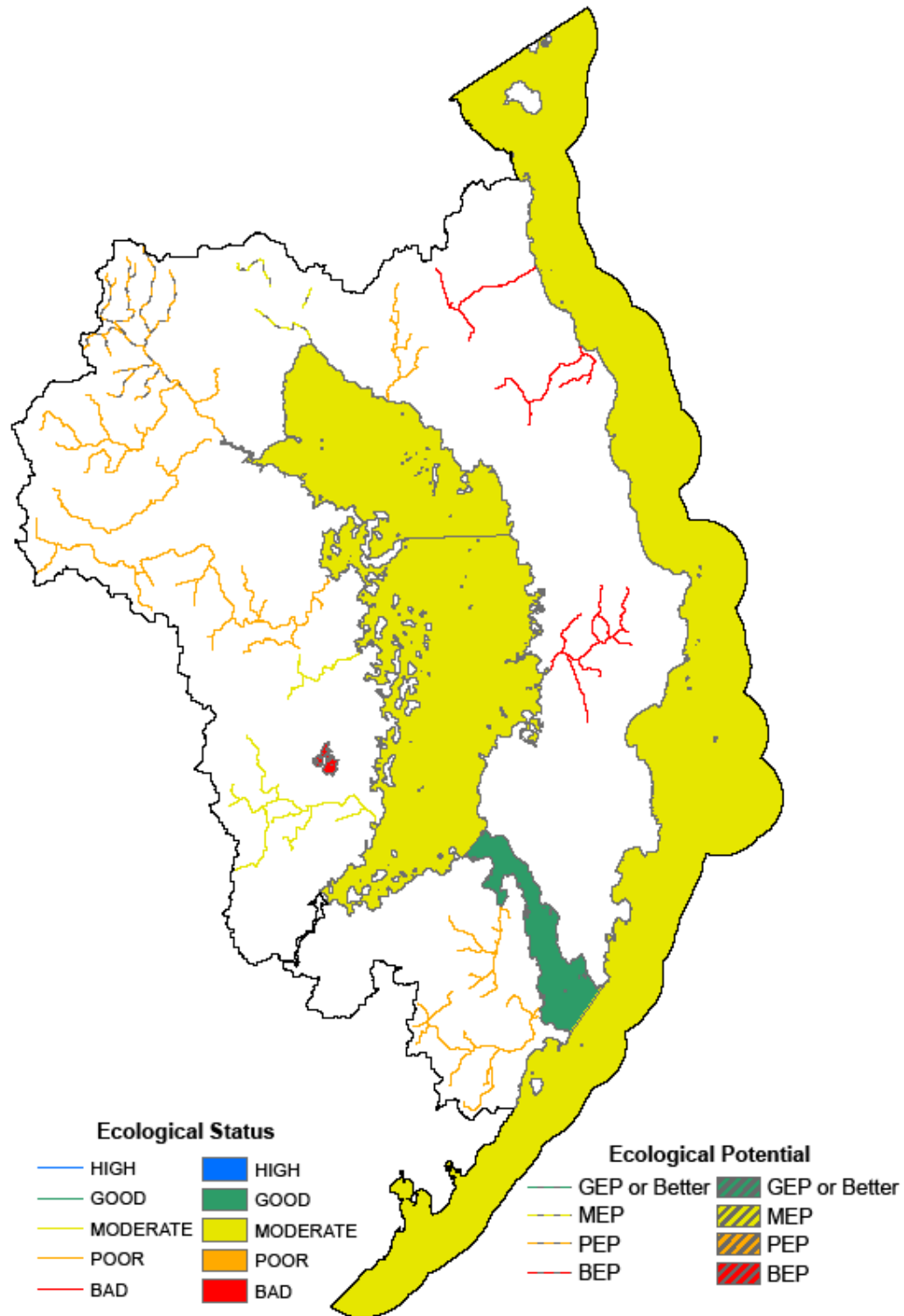
**Table 1: Status of surface waters in Strangford LMA**

Water body type	High	Good	Moderate	Poor	Bad	GEP	MEP	PEP	BEP
River	0	0	2	7	3	0	1	1	0
%	0	0	14.3	50	21.4	0	7.1	7.1	0
Lake	0	0	0	0	1	0	0	0	0
%	0	0	0	0	100	0	0	0	0
Coastal	0	1	3	0	0	0	0	0	0
%	0	25	75	0	0	0	0	0	0
Total Surface Waters	0	1	5	7	4	0	1	1	0
%	0	5.3	26.3	36.8	21.1	0	5.3	5.3	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.

One out of the three groundwater bodies contained within Strangford LMA is failing to achieve good status. This was due to water balance and nitrate levels.

Overall status of water bodies in Strangford LMA



## Protected areas in Strangford 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 Strangford LMA**

Protected Area Type	Location
<p>Waters used for the abstraction of drinking water (drinking water protected areas)</p>	<p>There are 3 drinking water protected rivers.</p> <p>There are 3 drinking water protected groundwaters.</p>
<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 34 km of river and 0.6 km<sup>2</sup> of lake identified under the Freshwater Fish Directive, all designated Salmonid.</p> <p>There are 3 designated shellfish waters; Marlfield Bay, Paddy's Point &amp; Ray Bay and Skate Rock</p>
<p>Bathing Waters</p> <p>These are bathing waters identified under the Bathing Waters Directives (76/160/EEC)</p>	<p>There are 2 identified bathing waters; Ballywalter and Millisle.</p>
<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 are 3 Urban Waste Water Treatment Directive sensitive areas; Strangford North End, River Enler and 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 3 water dependent Special Areas of Conservation; Strangford Lough, Turmennan and Lecale Fens.</p> <p>There are 2 water dependent Special Protection Areas; Strangford Lough and Outer Ards.</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**

Three river water bodies, one lake water body and one coastal water body were identified as being impacted by **abstraction and flow regulation**. Cully's Burn and Enler River are both heavily modified water bodies through flood risk management. Although Comber River is not classified as heavily modified it did show impacts from abstraction and flow regulation. Clea Lakes is also affected by abstraction and flow regulation. Strangford Lough Narrows has also been affected due to the presence of a hydropower scheme.

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	Lake	Coastal
Macrophytes	3	1	N/A
Diatoms	3	0	N/A
Phytoplankton	N/A	1	2
Macroalgae	N/A	N/A	1
Angiosperms	N/A	N/A	1
Invertebrates	13	N/A	0
Fish	2	0	N/A
DIN	N/A	N/A	2
Phosphorous	9	1	N/A
Dissolved Oxygen	4	1	0
Specific Pollutants/Priority Substances	2	0	0

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

In Strangford LMA the main impact was seen in invertebrate communities. This element is associated with organic enrichment and the rivers affected were: Ballymorrán Burn, Dibney River, Black Causeway Strangford, Comber River, Mill Burn, Blackstaff River, Ganaway Burn, River Blackwater, Mill Quarter Stream, Enler River, Ballystockart River and Cuning Burn.

There was also evidence of nutrient enrichment within the catchment. The main impacts were observed in phosphorous levels, specific pollutants/priority

substances (specifically ammonia) and macrophyte and diatom communities. The rivers affected were: Dibney River, Black Causeway Strangford, Comber River, Blackstaff River, Ganaway Burn, River Blackwater, Mill Quarter Stream, Enler River, Ballystockart River, Cully's Burn and Cuning Burn. Evidence of nutrient enrichment was also observed in lake and coastal water bodies. For the lake water body, Clea Lakes, the main impacts were observed in phosphorous levels and macrophytes and phytoplankton communities. For coastal water bodies, the main impacts were observed in Dissolved Inorganic Nitrogen (DIN) levels and phytoplankton, macroalgae and angiosperm communities. The water bodies affected were Strangford Lough North and South and Ards Peninsula.

Five river water bodies were identified as being affected by **changes to morphology (physical habitat)**. Two of these have been classified as heavily modified due to flood risk management. The rivers affected were: Cully's Burn and Enler River. Although the three other water bodies were not classified as heavily modified, they did show impacts from changes to morphology. The rivers affected were: Dibney River, Mill Quarter Stream and Ballystockart River

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

- Japanese Weed (*Sargassum muticum*)
- Common Cord Grass (*Spartina anglica*)
- Japanese Knotweed (*Fallopia japonica*)
- Himalayan Balsam (*Impatiens glandulifera*)

## 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 15.8% of our surface waters by 2015 and GEP (for Heavily Modified Water Bodies) in 10.5% of our surface waters by 2021.

### Current status and proposed objectives for surface waters in Strangford LMA



We aim to achieve good status in 100% of our groundwaters by 2027.

### Current status and proposed objectives for groundwater bodies in Strangford LMA



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

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

The programme of measures described in the North Eastern 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 current Bathing Water Directive (76/106/EEC) and revised Bathing Water Directive (2006/7/EEC);
- 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 Sewage Sludge Directive (86/278/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 (96/61/EC).

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 (Giant Hogweed, Himalayan Balsam and Japanese Knotweed)

[www.ni-environment.gov.uk/wfd](http://www.ni-environment.gov.uk/wfd)

- NIEA/National Parks and Wildlife Service best practice management guidance for Japanese Knotweed, Giant Hogweed and the Himalayan Balsam.
- A number of codes of practice, educational and awareness leaflets have been prepared and are available to download from [www.invasivespeciesireland.com](http://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.

There are no specific measures for the 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 and Turmennan Special Areas of Conservation have water dependent features which are 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 maritimae</i> ) unfavourable due to invasive alien 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 actions to address this problem (horse mussel) Joint action plans exist with DARD & NIEA NH
	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
Turmennan	Fens, transition mires & quaking bogs as unfavourable due to water quality and invasive species	Moss agreements with NIEA: 1  NICMS referrals: 1

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

**Supplementary measures** required to achieve environmental objectives for rivers, lakes, transitional and coastal water 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 Strangford LMA**

<b>Key sectors</b>	<b>Supplementary measures</b>	<b>Additional information</b>
Agriculture	Target education, advice and regulatory action	See Table 3 for number of water bodies where invertebrates are less than good
Collection and 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 WWTWs under the Rural Wastewater Investment Programme	Gransha Road and Kilmoody to be completed by 2010
	Upgrade WWTWs with a population equivalent greater than 250PE	Ballygowan upgrade on PC10 list
	Upgrade of sewer network	Upgrades to Ballyrickard sewer network under PC10 Upgrades to East Belfast sewer network under PC10 Upgrades to Millisle sewer network under PC10
Industry & other Business	Improve compliance with discharge consents	There are 6 non compliant discharges 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	
<b>Pressures</b>	<b>Supplementary measures</b>	<b>Additional information</b>
Specific & priority substances	Development and implementation of 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 are 2 HMWBs at <GEP and 5 water bodies are affected by changes to morphology.
Groundwater	Further investigation of the recovery time with respect to elevated nitrate levels	
	Further investigation of water balance for the groundwater body, taking into account recharge estimate and abstraction levels	
Pressure Unknown	Carry out further investigation	There are 12 water bodies where confidence in class is low.
Invasive alien species	Deliver education and awareness campaigns and eradicate invasive alien species, where possible	

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;
- 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 carried out in Strangford 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 Strangford LMA are shown below.

#### **National Trust Projects**

- 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 for Strangford Lough (Strangford Lough Special Areas of Conservation, Special Protection Area & Ramsar sites).
- The National Trust has local measures against point and diffuse pollution through their Environmental Compliance Audit of all National Trust owned sites. Emergency remedial action has been or is being completed on possible diffuse and point pollution sources. A code of practice has also been issued for sites with septic tanks. This specifically relates to properties at Strangford Lough, Lisnabreeny, Castle Ward and Mount Stewart
- Ongoing advice to farm tenants on resource management, waste control and environmental performance. Encouraging tenants to adhere to best practice for pollution control. This specifically relates to all land holdings in the area e.g. Castle Ward and Strangford Lough (inc. Ballyquintin, Barhall & Orlock Point).
- Coastal Risk Assessment to identify habitats at risk of coastal erosion and flooding. Based on the results, work to identify opportunities for managed realignment and habitat creation on National Trust land. Assessment complete, follow-up action ongoing at Castle Ward, Mount Stewart, Strangford Lough, Kearney, Knockinelder, Ballymacormick Point and Orlock Point.

- Greening National Trust buildings to reduce run off and improve water efficiency. All renovation and building projects to apply sustainability criteria. Ongoing project including Mount Stewart, Castle Ward, plus all future projects.
- 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 Strangford Lough, Castle Ward and Mount Stewart.
- 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 Castle Ward, Kearney Village, Lisnabreeny, Mount Stewart and Strangford Lough.
- Promoting the importance of water and its efficient use to our supporters through information, campaigns and events. Planned and may include Mount Stewart and Strangford Lough (wildlife centre).

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](http://www.doeni.gov.uk)



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