

Northern Ireland  
Environment Agency

# LARNE LOUGH

## Local Management Area Information Leaflet



## **Information Leaflet - Larne Lough 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**

Larne Lough LMA is in the North Eastern River Basin District and covers a land area of approximately 141km<sup>2</sup>. Larne (Inver) River rises around Thorny Hill, while the Glynn/Glenoe rises round Drummond's Hill and like numerous other smaller rivers in the area flows into the Lough. Larne Lough is a sea lough, enclosed on the east side by Island Magee. It is mainly shallow, with mud flats to the south exposed at low tide while the north end is wider and deeper.

The main towns include Larne, Ballycarry and Whitehead and smaller villages include Glynn, Glenoe and Millbrook. The main land use is improved grassland, arable farming and rural/suburban development.

The Lough includes designated shellfish waters and supports important breeding and feeding grounds for a range of birds. The area also includes Larne Port, which handles substantial passenger and freight traffic. There are a number parks and recreational facilities that support tourism and outdoor activities including boating, bathing, walking and bird watching. Brown's Bay bathing water, although part of Glens and Rathlin LMA, is influenced by the activities within Larne Lough LMA.

**Key Facts**

**LMA area:** 141km<sup>2</sup>

**WFD water bodies:**

- 2 river water bodies
- 3 coastal water bodies
- 2 groundwater bodies

**Main land use:**

- Agriculture (Improved grassland and Arable 58%)
- Urban development 10%

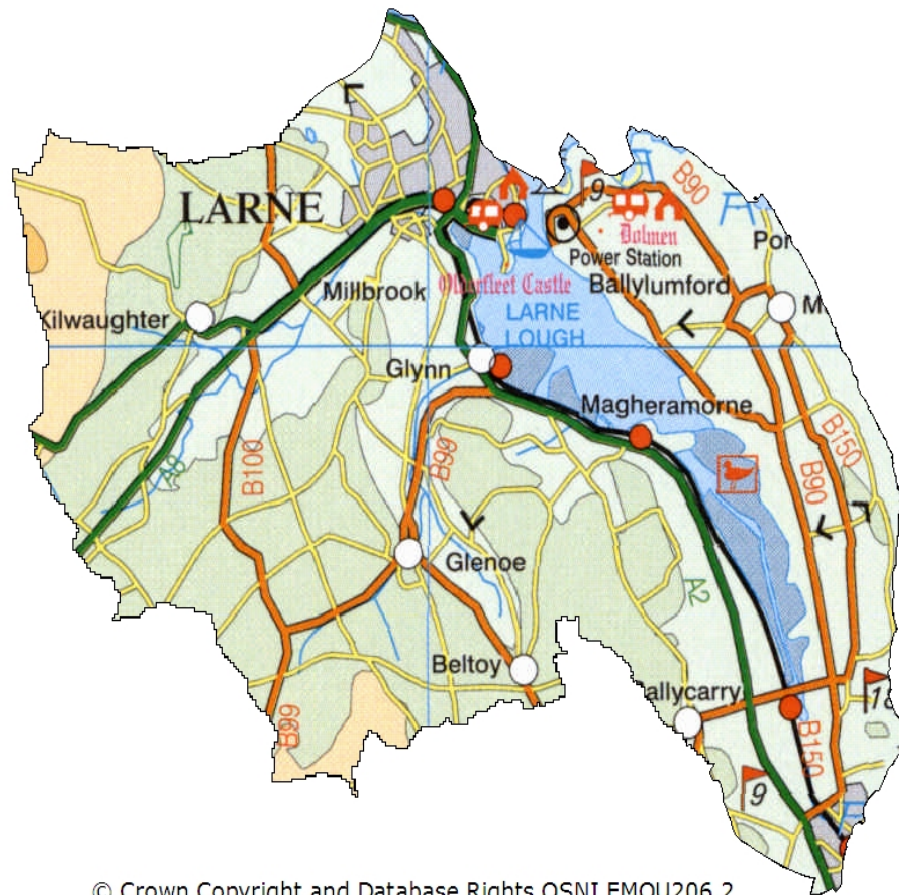
**Key industries:**

- Agriculture
- Marine Transport
- Fisheries

**Main towns and populations:**

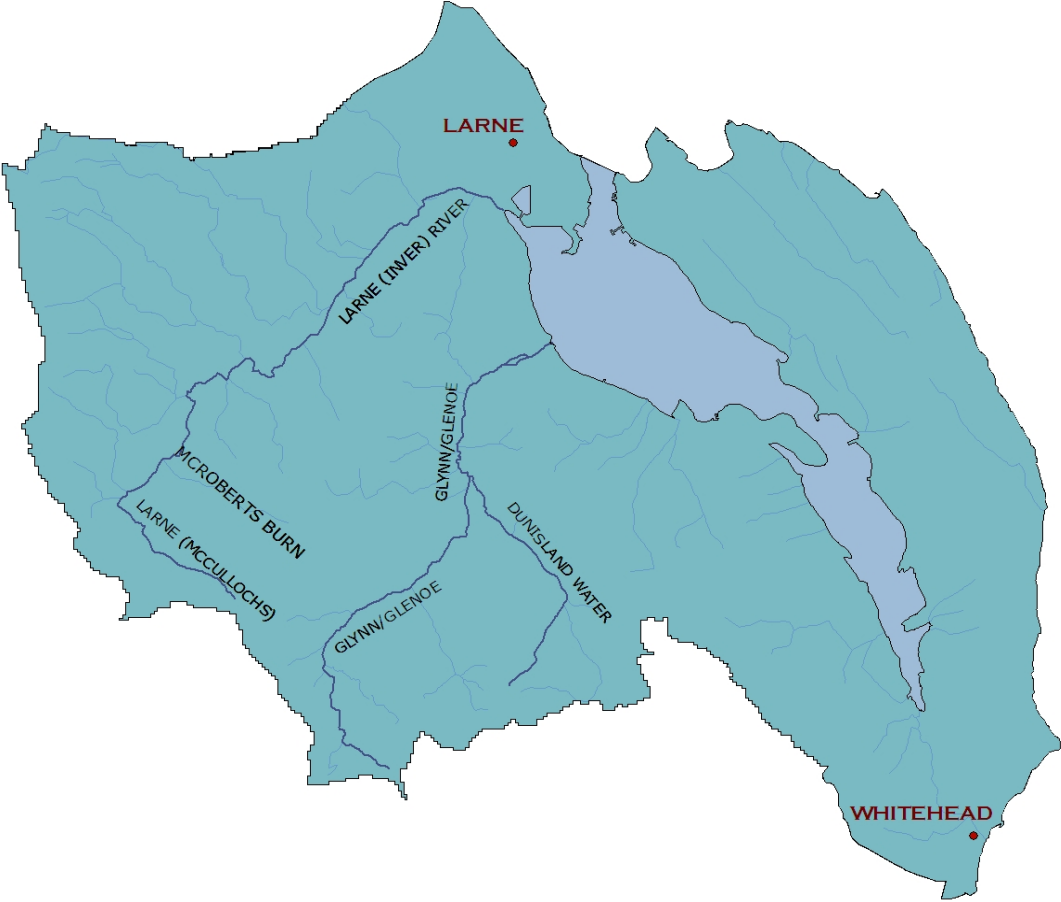
- Larne (18228\*)
- Whitehead (3702\*)
- Ballycarry (981\*)
- Glynn (641\*)

\*Figures based on 2001 census



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**Larne Lough LMA with main rivers identified**



## The quality of water bodies in Larne Lough LMA

Our understanding of the state of Northern Ireland’s water environment and Larne 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 Larne Lough LMA, Larne Lough North has been designated as heavily modified.

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

60% of surface water bodies in Larne Lough LMA have been classified as less than good status. The main impact for rivers was seen in diatom communities. For coastal waters the downgrading was due to impacts on invertebrate communities.

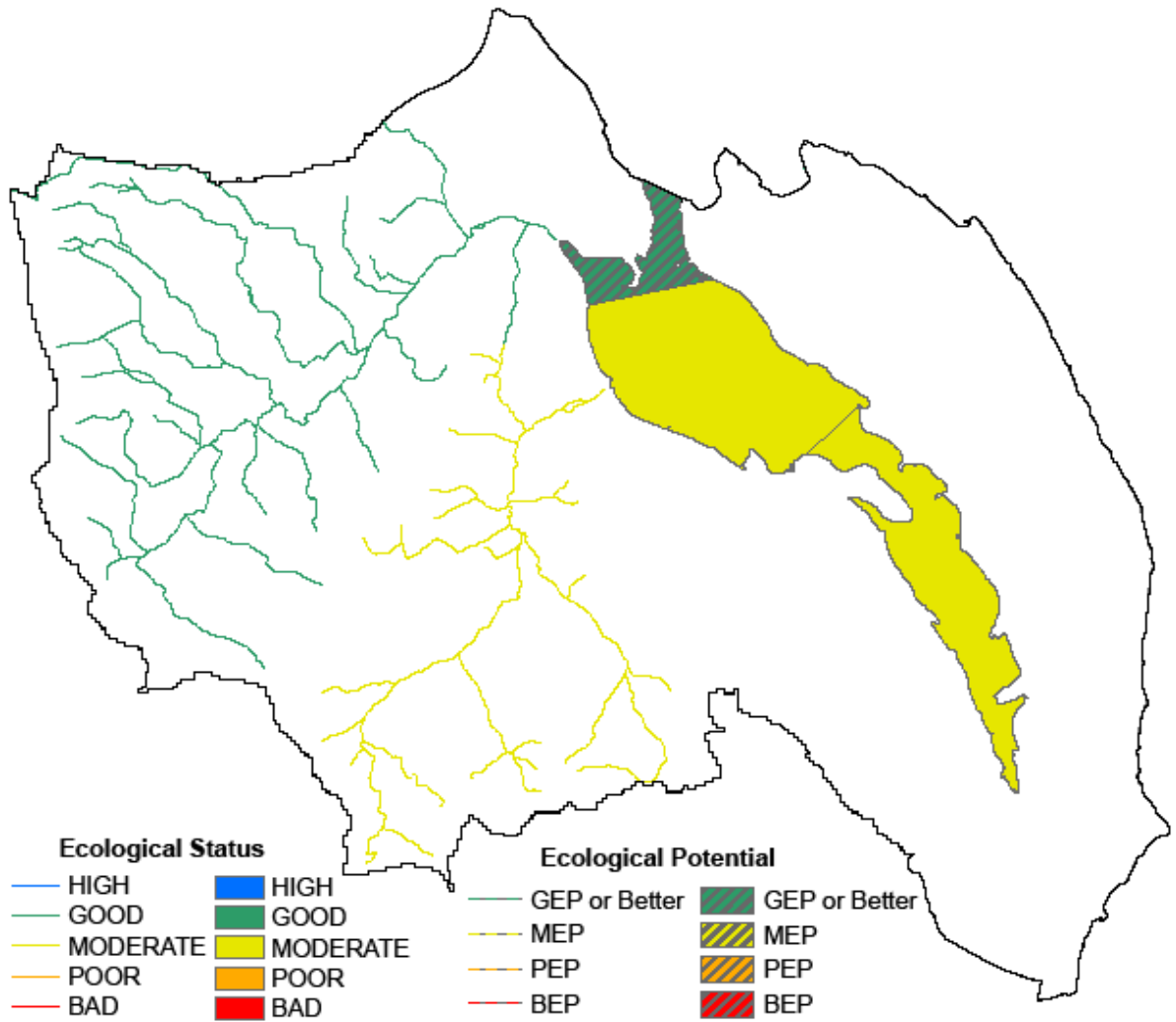
**Table 1: Status of surface waters in Larne Lough LMA**

Water body type	High	Good	Moderate	Poor	Bad	GEP	MEP	PEP	BEP
River	0	1	1	0	0	0	0	0	0
%	0	50	50	0	0	0	0	0	0
Coastal	0	0	2	0	0	1	0	0	0
%	0	0	66.7	0	0	33.3	0	0	0
Total Surface Waters	0	1	3	0	0	1	0	0	0
%	0	20	60	0	0	20	0	0	0

**Groundwaters** (underground waters) 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 Larne Lough LMA are achieving good status.

**Overall status of water bodies in Larne Lough LMA**



## Protected areas in Larne Lough 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 Larne Lough LMA**

Protected Area Type	Location
Waters used for the abstraction of drinking water (drinking water protected areas)	There is 1 drinking water protected river. There are 2 drinking water protected groundwaters.
Areas designed to protect economically significant aquatic species  Freshwater Fish Directive (78/659/EEC)  Shellfish Waters Directive (79/923/EC)	There are 23 km of rivers identified under the Freshwater Fish Directive, all designated Salmonid.  There is 1 designated shellfish water; Larne Lough.
Bathing Waters These are bathing waters identified under the Bathing Waters Directives (76/160/EEC)	There are no identified bathing waters.
Nutrient Sensitive Areas Areas designated as sensitive under the Urban Waste Water Treatment Directive (91/271/EEC) and the Nitrates Directive (91/676/EEC)	There are no Urban Waste Water Treatment Directive sensitive areas.  A total territory approach has been adopted in Northern Ireland for the Nitrates Directive.
Areas designated for the protection of habitats or species (Natura 2000 sites) 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.  Habitats Directive (92/43/EEC)  Birds Directive (79/409/EEC)	There are no water dependent Special Areas of Conservation.  There are 2 water dependent Special Protection Areas; Larne Lough and Swan Island.

## 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**

Glynn River was identified as being impacted by **abstraction and flow regulation**. Larne Lough North is affected by abstraction and flow regulation resulting from its use for cooling water.

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

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

In Larne Lough LMA the main impact was observed in diatom communities. This element is associated with nutrient enrichment. The river affected was Glynn River. There was little evidence of organic enrichment in river water bodies. However, there was evidence of organic enrichment in coastal water bodies. The main impact was observed in invertebrate communities. The water bodies affected were Larne Lough Mid and South.

No river water bodies were identified as being affected by **changes to morphology (physical habitat)**. However, due to its use as a major shipping port Larne Lough North has been classified as a heavily modified.

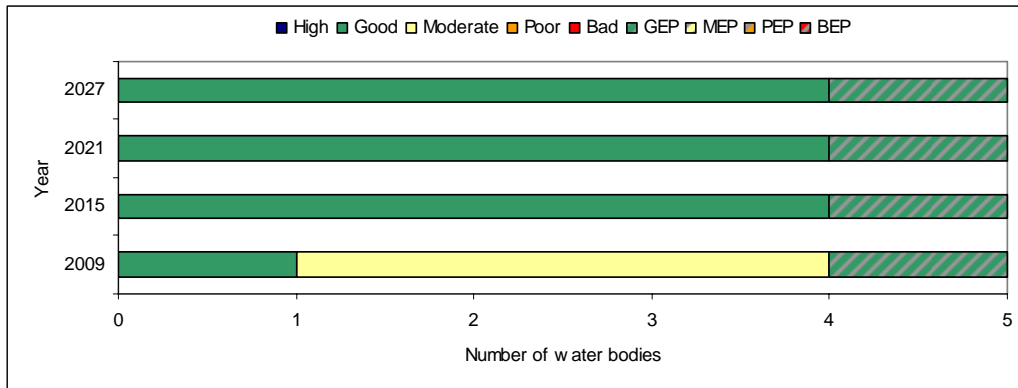
The water environment in Northern Ireland has been impacted by the introduction of **invasive alien species**. Species which have already become established in this area include:

- Japanese Knotweed (*Fallopia japonica*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Leathery Sea Squirt (*Styela clava*)
- 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 80% of our surface waters and maintain GEP for all our Heavily Modified Water Bodies. We also aim to maintain good status in 100% of our groundwaters.

#### Current status and proposed objectives for surface waters in Larne Lough LMA



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

There are a number of measures which will be implemented in Larne Lough 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 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); 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;
- Controls on other activities impacting on water status; and
- Controls to avoid increase in pollution of marine waters.

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

- Rivers Agency Management protocols (Giant Hogweed, Himalayan Balsam and Japanese Knotweed)
- 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 Special Areas of Conservation in Larne Lough LMA. Larne Lough and Swan Island Special Protection Areas is in favourable condition. Further details on the Special Protection Areas in the Larne Lough 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 4: <sup>1</sup>Supplementary measures in Larne Lough LMA**

Key sectors	Supplementary measures	Additional Information
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
Pressure unknown	Carry out further investigation	There are no water bodies where confidence in class is low.

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 Larne Lough 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

<sup>1</sup> Strategic Environmental Assessment has considered the impacts associated with the suite of supplementary measures proposed. Where impacts were identified, mitigation measures were proposed and are detailed in the SEA Mitigation Measures document which is available on the website.

objectives we have set for our waters. Some of those happening in Larne Lough LMA are shown below.

### **Larne Lough Special Investigations**

NIEA have been working with the Environmental Management of Larne Lough Group to identify and help to resolve water management and pollution problems associated with the Larne Lough catchment. Marine and catchment investigations and monitoring are being carried out by NIEA staff. A number of pressures have been identified and NIEA staff are working to resolve these with local industries and other government departments and agencies.

### **National Trust**

- 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 Islandmagee.
- 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 Islandmagee (2 holdings).
- 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 and follow-up action ongoing at Islandmagee (the Gobbins, Portmuck, Skerrigan Point).
- Audit of water use at all National Trust sites to establish a baseline then set targets for reduction and introduce water efficiency measures. Abstraction and flow pressure. Ongoing at Islandmagee.

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.

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