

Northern Ireland
Environment Agency

UPPER LOUGH ERNE

Local Management Area Information Leaflet



Information Leaflet - Upper Lough Erne 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 Western District. These LMA Plans will be implemented on a three-year rolling programme within the North Western District as set out below:

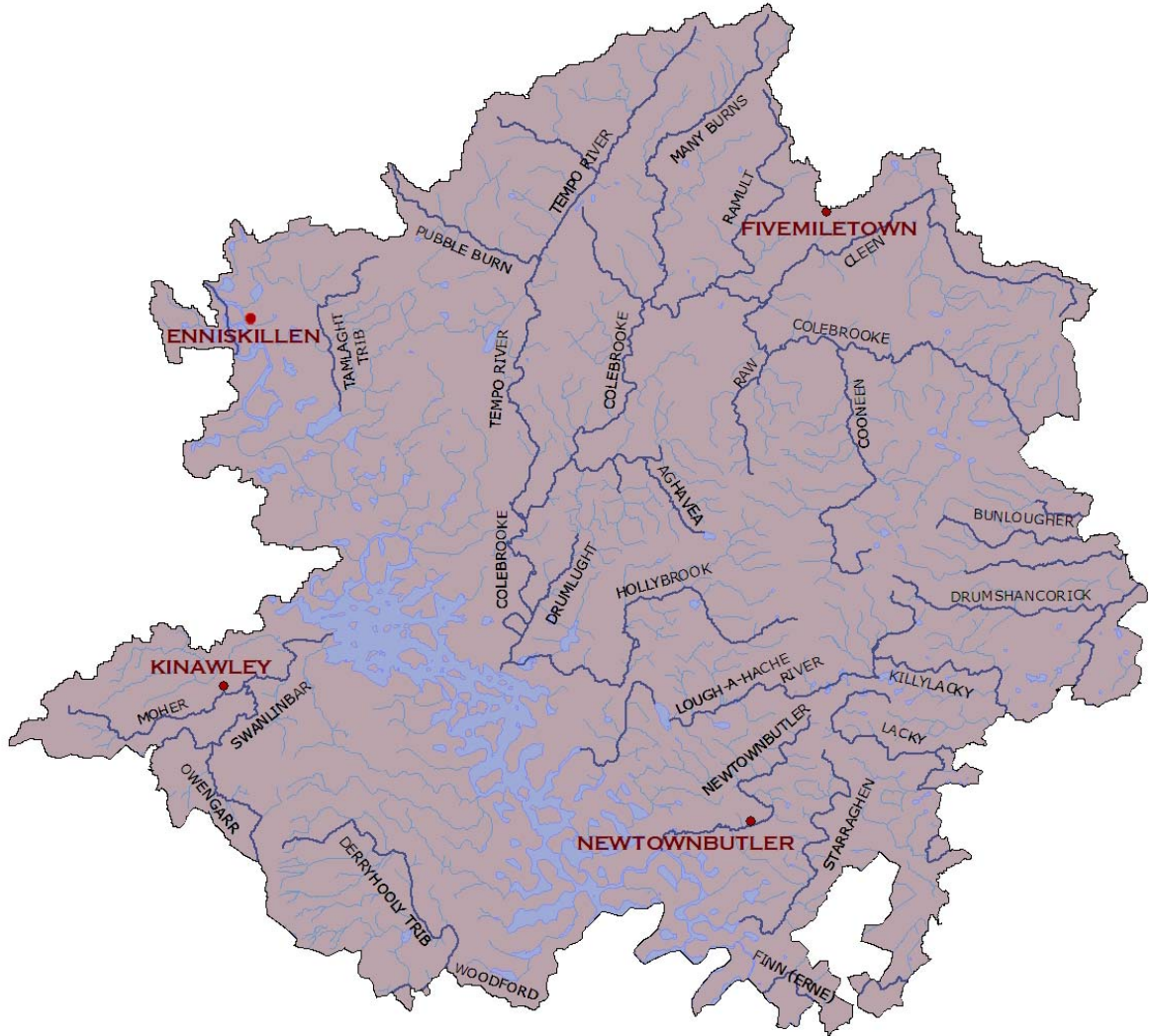
- Lower Lough Erne, Owenkillew and Burn Dennet & Foyle in 2010;
- Upper Lough Erne, Derg & Mourne and Roe in 2011;
- Lough Melvin and Arney, Strule and Faughan in 2012.

Introduction

Upper Lough Erne LMA, part of the North Western River Basin District, covers an area of approximately 869 km² in Northern Ireland. The River Erne rises in the Republic of Ireland and flows north westerly via both Upper and Lower Lough Erne before ultimately draining into Donegal Bay at Kildoney Point. This LMA contains the Upper Lough and all the rivers and tributaries that flow into it e.g. Newtownbutler, Lough-A-Hache, Colebrook, Tempo, Swanlinbar, Finn and Woodford.

The main towns in the area are Enniskillen, Lisnaskea, Fivemiletown, Lisbellaw and Newtownbutler with a number of smaller towns and villages including Tempo, Brookeborough, Derrylin, Bellanaleck and Kinawley. In all, the area supports over 33000 people. The dominant land use is improved grassland with acid grass.

Upper Lough Erne LMA with main rivers identified



The quality of water bodies in Upper Lough Erne LMA

Our understanding of the state of Northern Ireland’s water environment and Upper Lough Erne 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 these factors.

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.

There are two water bodies classed as heavily modified, one for navigational reasons and the other for flood defences.

What is the current status of surface waters in Upper Lough Erne LMA?

76% of the surface water bodies in Upper Lough Erne LMA have been classified as less than good. The main reason is due to inadequate levels of dissolved oxygen.

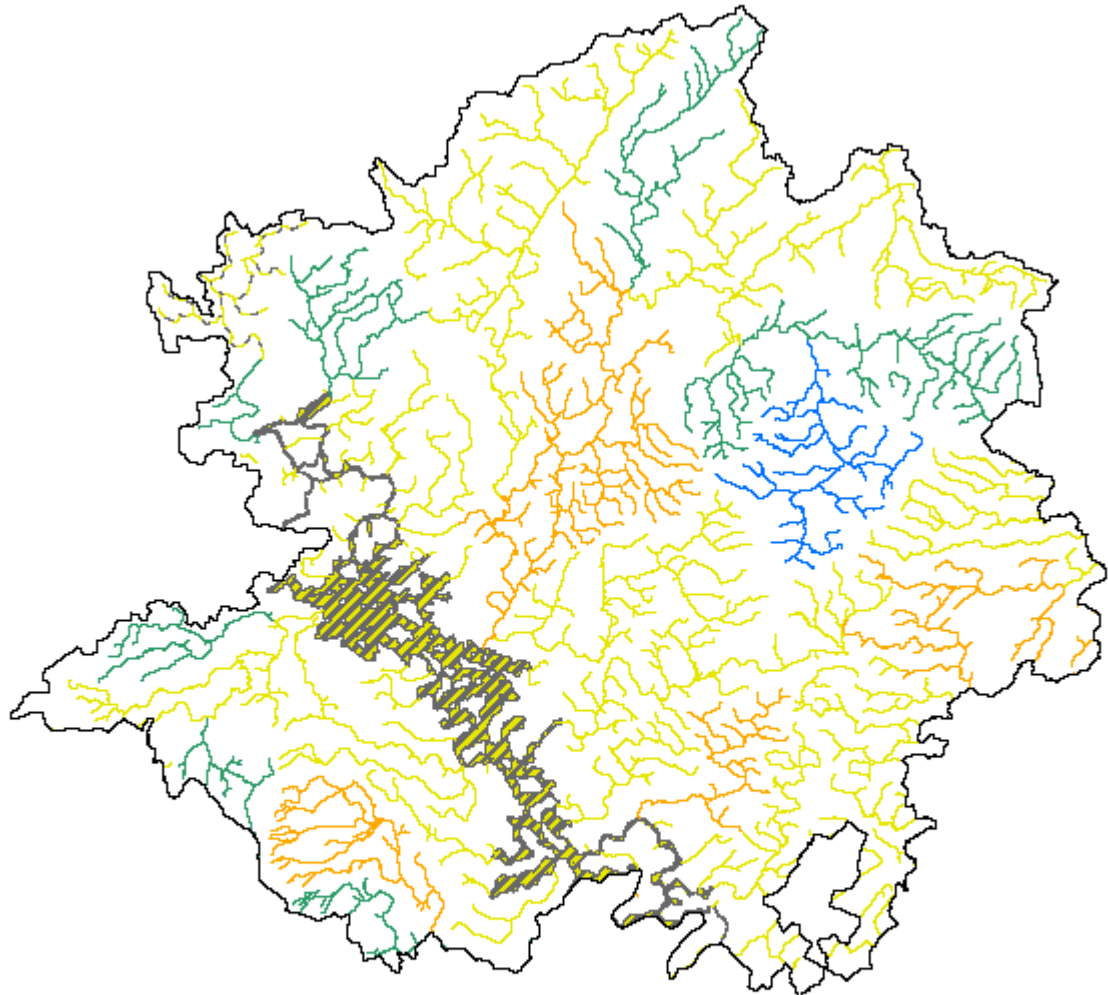
Table 1: Status of surface waters in Upper Lough Erne LMA

| Water body type | High | Good | Moderate | Poor | Bad | GEP | MEP | PEP | BEP |
|----------------------|------|------|----------|------|-----|-----|-----|-----|-----|
| River | 1 | 9 | 23 | 8 | 0 | 0 | 1 | 0 | 0 |
| % | 2.3 | 20.9 | 54.7 | 18.6 | 0 | 0 | 2.3 | 0 | 0 |
| Lake | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| % | 0 | 0 | 0 | 0 | 0 | 0 | 2.3 | 0 | 0 |
| Total Surface Waters | 1 | 9 | 23 | 8 | 0 | 0 | 2 | 0 | 0 |
| % | 2.3 | 20.9 | 53.5 | 18.6 | 0 | 0 | 4.6 | 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.

In Upper Lough Erne LMA all groundwater water bodies are achieving good status.

Overall status of water bodies in Upper Lough Erne LMA



Ecological Status

| | |
|------------|------------|
| — HIGH | — HIGH |
| — GOOD | — GOOD |
| — MODERATE | — MODERATE |
| — POOR | — POOR |
| — BAD | — BAD |

Ecological Potential

| | |
|-----------------|-----------------|
| — GEP or Better | — GEP or Better |
| — MEP | — MEP |
| — PEP | — PEP |
| — BEP | — BEP |

Protected areas in Upper Lough Erne 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 Upper Lough Erne LMA

| Protected Area Type | Location |
|---|--|
| <p>Waters used for the abstraction of drinking water (drinking water protected areas)</p> | There are 16 drinking water protected areas. |
| <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 approximately 317 km of river and 31 km² of lakes 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 area: Lough Erne.</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 6 water dependent Special Areas of Conservation; Upper Lough Erne, Slieve Beagh, Cladagh (Swanlinbar) River, Magheraveely Marl Loughs, Cuilcagh Mountain and Moninea Bog.</p> <p>There are 2 water dependent Special Protection Areas Upper Lough Erne and Slieve Beagh-Mullaghfad-Lisnaskea.</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**

Abstraction and Flow Regulation pressures are having a limited impact on a couple of heavily modified water bodies in this area. Even though there is an abstraction point and controlled water levels within Lough Erne, they are regulated to such a degree they should achieve their objective of Good Ecological Potential by at least 2021.

A number of biological and chemical water quality elements used in classification 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 |
| Macrophytes | 8 | 0 |
| Diatoms | 3 | 1 |
| Phytoplankton | N/A | 0 |
| Macroalgae | N/A | N/A |
| Angiosperms | N/A | N/A |
| Invertebrates | 12 | N/A |
| Fish | 0 | 0 |
| DIN | N/A | N/A |
| Phosphorous | 0 | 1 |
| Dissolved Oxygen | 17 | 0 |
| Specific Pollutants/Priority Substances | 0 | 0 |

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

In this LMA the main impact was seen in dissolved oxygen levels and also invertebrate communities. These elements are mainly connected with organic enrichment and the rivers affected include: Colebrook, Newtownbutler, Lough-A-Hache, Woodford Tributary, Swanlinbar, Lacky, Killylacky and Finn.

In addition to organic enrichment, there is also evidence of nutrient enrichment indicated by the number of water bodies affected by impacts on macrophyte and diatom communities. These rivers include Colebrook, Newtownbutler, Tempo and Swanlinbar. Upper Lough Erne also shows evidence of nutrient enrichment.

9 water bodies were identified as being affected by **changes to morphology (physical habitat)**. These include: Tempo & Colebrooke, Many Burns, Tamlaght Streams, Hollybrook, Woodford & the Lough. Types of morphology pressures include channelisation, embankments, water regulation, overgrazing and barriers to migration.

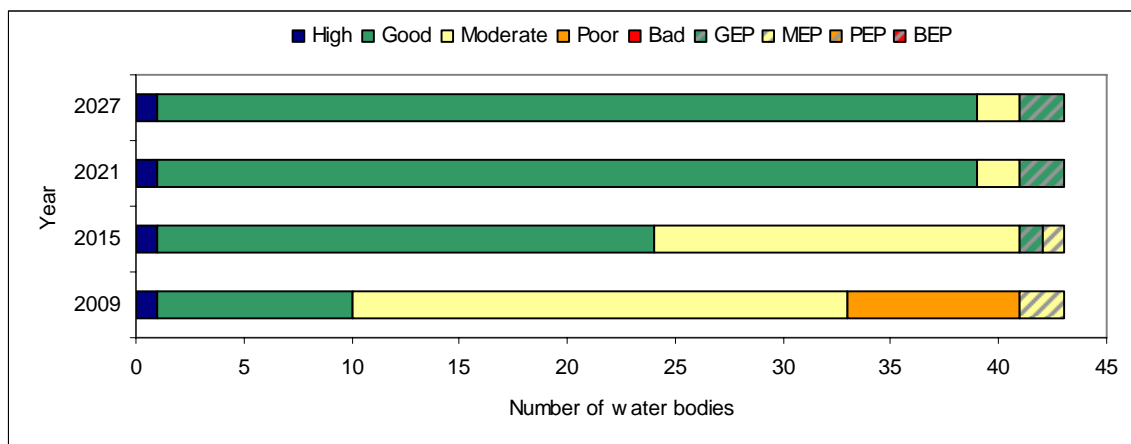
The water environment in Northern Ireland has been impacted by the introduction of **invasive alien species**. Species which have already become established in this area include:

- Japanese Knotweed (*Fallopia japonica*)
- Himalayan Balsam (*Impatiens glandulifera*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Zebra Mussel (*Dreissena polymorpha*)
- Freshwater Shrimp (*Gammarus pulex*)
- Brown Bullhead Catfish (*Ameiurus nebulosus*)
- Common Bream (*Abramis brama*)
- Roach (*Rutilus rutilus*)

What improvements do we plan to achieve?

We have set environmental objectives to deliver improvements as shown below. For our surface waters we aim to achieve good quality or better in 58% of the water bodies by 2015. We also aim to maintain good status in 100% of our groundwaters.

Current status and proposed objectives for surface waters in Upper Lough Erne LMA



How are we going to maintain and improve the water environment in Upper Lough Erne LMA?

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

The programme of measures described in the North Western 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 Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC);
- The Birds Directive (79/409/EEC);
- The Major Accidents Directive (96/82/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 (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:

- Zebra Mussel Management Strategy for Northern Ireland 2004-2010
- Rivers Agency Management protocols (Giant Hogweed, Himalayan Balsam and Japanese Knotweed)

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. Management plans have also been developed for a wide range of species including the *Didemnum* species (sea squirt) and the Floating Pennywort.
- A number of codes of practice, educational and awareness leaflets have been prepared and are available to download from www.invasivespeciesireland.com

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

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 water dependent features of Slieve Beagh, Cuilcagh Mountain and Upper Lough Erne Special Areas of Conservation as there are no water related adverse activities causing the unfavourable condition assessment.

The Cladagh (Swanlinbar) River, Magheraveely Marl Lough and Moninea Bog 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 | |
|----------------------------|---|---|--|
| Magheraveely Marl Lough | White-clawed Crayfish unfavourable due to water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc) | Investigation of groundwater inputs. | |
| | Marl lakes unfavourable due to water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc) | Investigation to determine natural water levels at Kilrooskey Lough. Further research required. | |
| Moninea Bog | Active raised bogs unfavourable due to over-grazing (including deer browsing). Water management (including drainage, dredging or alterations to the water table. Could be too much water or too little) | Investigation ongoing | |
| Name | Current condition assessment of water dependent features | Measures in place | Supplementary Measures |
| Cladagh (Swanlinbar) River | Freshwater Pearl Mussel unfavourable due to water management (including drainage, dredging or alterations to the water table. Could be too much water or too little). Water quality (including silt, water pollution (direct or diffuse), run-off, nutrient enrichment, eutrophication etc) and also game or fisheries management (e.g. introduction of | 6 NICMS referrals were received from DARD with enhancement option for riparian zones including fencing to protect the river bank. Ongoing research project Ballinderry | Development of action plans for designated freshwater pearl mussel Special Areas of Conservation |

| | | | |
|--|--|--|--|
| | stock at too high a level, over-zealous cutting of river banks, bait digging). | | |
|--|--|--|--|

There are two water dependent Special Protection Areas in the Upper Lough Erne LMA. Upper Lough Erne Special Protection Area is in favourable condition and the condition of Slieve Beagh-Mullaghafad-Lisnaskea has not yet assessed. Further details on Special Areas of Conservation and Special Protection Areas in the Upper Lough Erne 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: ¹Supplementary measures in Upper Lough Erne 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 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 with a population equivalent of greater than 250 | ² Enniskillen upgrade under PC10 |
| | Upgrade of WWTP under Rural Wastewater Investment Programme | ² Drummack and Kinawley to be completed by 2010 |
| Industry and other business | Improve compliance with discharge consents | There are 9 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 | |
| Pressures | Supplementary measures | Additional information |
| Abstraction & flow regulation Morphology | Develop mitigation measures identified for hydromorphology pressures | There are 2 HMWBs at <GEP and 9 water bodies are affected by changes to morphology |
| Invasive alien species | Deliver education and awareness campaigns and eradicate invasive alien species, where possible | |
| Pressure Unknown | Carry out further investigation | There are 3 water bodies where cause of pressure cannot be identified There are 17 water bodies where confidence in class is low |

¹ 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.

² The dates/works upgrades may be subject to change. PC10 upgrades cover 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 carried out in Upper Lough Erne 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 Upper Lough Erne LMA are shown below.

A **Lough Erne Management Strategy** is currently being prepared by Fermanagh District Council. An Erne catchment management plan will be produced and this will add to the information and measures being introduced under the North Western River Basin Management Plan.

National Trust Projects

Crom Estate (Upper Lough Erne Special Area of Conservation) -

Actions/plans to bring Natura 2000 sites and Areas of Special Scientific Interest towards favourable condition by 2015 for sites in National Trust ownership.

These actions are ongoing.

Castle Cool and Crom Estate - Environmental Compliance Audit of all National Trust owned sites. Water pressure is diffuse and point source pollution. Emergency remedial action has been completed. Action on the remaining assets presenting a risk to water quality are completed or in progress. Issue a code of practice to septic tank users.

Castle Cool and Crom Estate - Ongoing advice to farm tenants on resource management, waste control and environmental performance. Encouraging tenants to adhere to best practice for pollution control. Water pressures are diffuse and point source pollution and morphology.

www.ni-environment.gov.uk/wfd

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.

