Northern Ireland
Environment Agency

OWENKILLEW

Local Management Area Information Leaflet

Northern Ireland Environment Agency
www.ni-environment.gov.uk

Information Leaflet - Owenkillew 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

Owenkillew LMA is part of the North Western River Basin District and covers an area of approximately 454 km^2. Several significant rivers are present in this LMA – Owenkillew, Glenelly, Owenreagh and Broughderg Burn. The main Owenkillew River rises in Davagh Forest and flows westwards, forming part of the Lough Foyle system. The river supports important populations of salmon and trout. Otters are also frequently seen along its banks. The river is notable for the physical diversity and naturalness of its banks and river channel and also the rich biodiversity of its plant and animal communities. Beds of Stream Water-Crowfoot occur throughout its middle and lower reaches. Intermediate Water-Starwort and various pondweeds are also present. In its upper reaches, the river maintains a freshwater pearl mussel (*Margaritifera margaritifera)* population which is estimated to have a minimum number of 10000 individuals. It is the largest known population surviving in Northern Ireland.

There are no large towns in the area but there are numerous small villages such as Plumbridge, Gortin and Greencastle. Improved grassland predominates the land usage in the west and along the Glenelly Valley and Owenkillew River. The upland area of the Sperrins is predominantly acid grass, heath and peat.

The area also supports a wide range of natural habitats several which are protected. Owenkillew LMA is enveloped almost completely within the Sperrin Area of Outstanding Natural Beauty. The area also supports a wide range of recreational activities including walking, angling, cycling and bird watching.

Key Facts

LMA area: 454 km^2

WFD water bodies:

18 river water bodies
1 groundwater body

Main land use:

Agriculture (Improved grassland and Arable 30%)
Acid grass 25%
Peatland 14%
Heathland 13%

Key industries:

Agriculture
Forestry
Mining

Main towns and populations:

Plumbridge
Gortin
Greencastle

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Owenkillew LMA with main rivers identified

The quality of water bodies in Owenkillew LMA

Our understanding of the state of Northern Ireland's water environment and Owenkillew 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.

No water bodies in this LMA were identified as heavily modified.

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

55.6% of surface water bodies in Owenkillew LMA have been classified as less than good status. Many of the rivers failed to achieve good status due to high levels of specific pollutants and impacted invertebrate communities.

Table 1: Status of surface waters in Owenkillew LMA

Water body type	High	Good	Moderate	Poor	Bad	GEP	MEP	PEP	BEP
River	0	8	10	0	0	0	0	0	0
%	0	44.4	55.6	0	0	0	0	0	0
Lake	0	0	0	0	0	0	0	0	0
%	0	0	0	0	0	0	0	0	0
Total Surface Waters	0	8	10	0	0	0	0	0	0
%	0	44.4	55.6	0	0	0	0	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 of the groundwater bodies in Owenkillew LMA are achieving good status.

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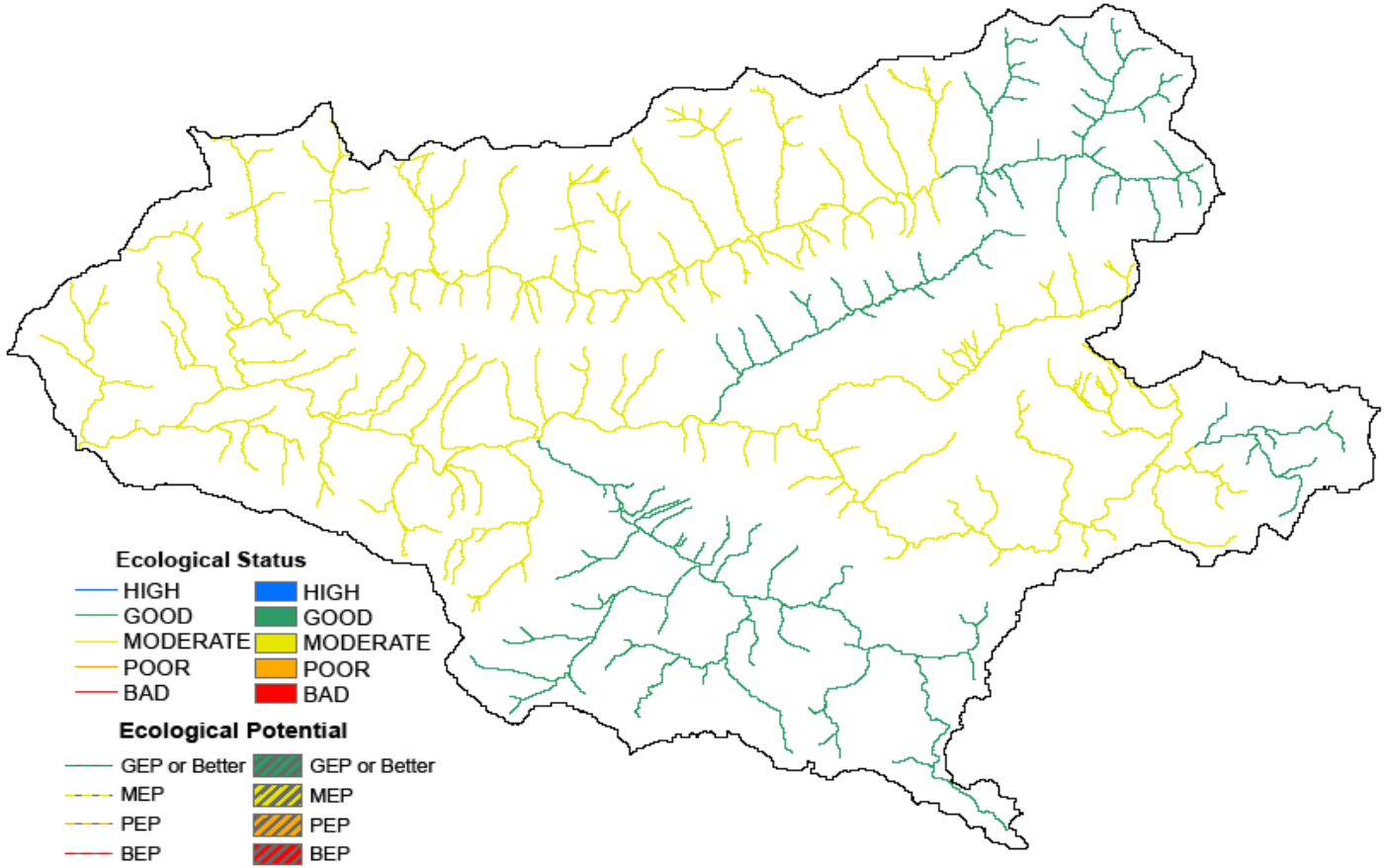
Overall status of water bodies in Owenkillew LMA



Protected areas in Owenkillew 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 Owenkillew LMA

Protected Area Type	Location
Waters used for the abstraction of drinking water (drinking water protected areas)	There are 2 drinking water protected areas. There are groundwater protected areas.
Areas designed to protect economically significant aquatic species Freshwater Fish Directive (78/659/EEC) Shellfish Waters Directive (79/923/EC)	 There are 152 km of rivers identified under the Freshwater Fish Directive, all designated Salmonid. There are no designated shellfish waters.
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 is 1 Urban Waste Water Treatment Directive sensitive area; River Foyle. 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 4 water dependent Special Areas of Conservation; Owenkillew River, River Foyle and Tributaries, Teal Lough and Black Bog. There are no water dependent Special Protection Areas.

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 water bodies in the area were identified as being impacted by **abstraction and flow regulation** - the Glenawisk Burn, Cashel Burn and Glenmacoffer Burn. Only Glenmacoffer Burn was downgraded. The others were not impacted enough to downgrade the overall status and will be monitored for any further changes.

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
Macrophytes	1
Diatoms	0
Phytoplankton	N/A
Macroalgae	N/A
Angiosperms	N/A
Invertebrates	6
Fish	1
DIN	N/A
Phosphorous	0
Dissolved Oxygen	0
Specific Pollutants/Priority Substances	7

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

In this LMA the main impact in the rivers was seen in elevated levels of Specific Pollutants/Priority Substances (specifically copper and zinc). This may be due to natural run-off from the Sperrin Mountains. Elevated metal levels tend to be associated with upland acidic peaty soils and granite outcrops. This needs further investigation. The main rivers affected were: Owenkillew, Owenkillew Gortin & Newtownstewart, Glenmacoffer Burn and Glenelly.

There was evidence of organic enrichment within the LMA. The main impacts were observed in invertebrate communities. The main rivers affected were: Owenkillew, Glenelly, Coneyglen Burn and Glenknock.

There was also evidence of nutrient enrichment in Glenknock River. The main impacts were observed in macrophyte communities.

Thirteen water bodies were identified as being affected by **changes to morphology (physical habitat)**. The main rivers affected were: Owenkillew, Owenreagh, Glenawisk Burn, Cashel Burn, Owenkillew River Gortin, Glenmacoffer Burn, Glenelly, Davagh Water, Coneyglen Burn and Glenknock. In some rivers the changes were not impacting enough to downgrade the overall status e.g. Glenawisk Burn and Cashel Burn. We will continue to monitor these rivers for any further changes.

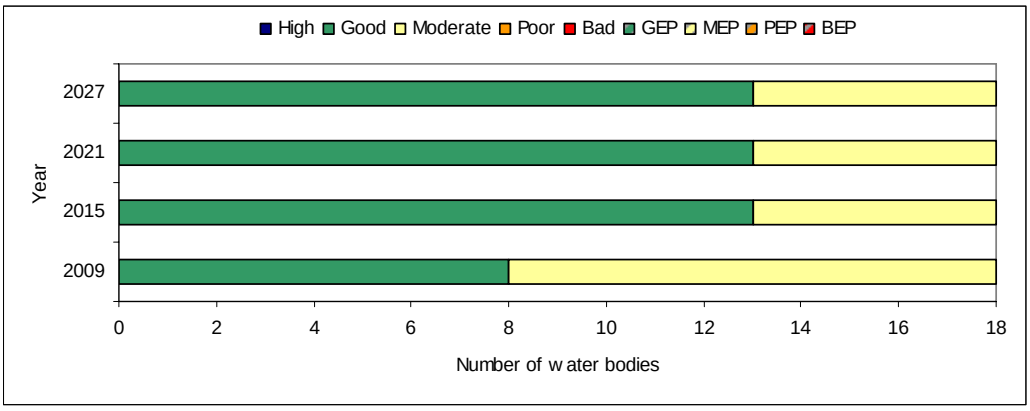
The water environment in Northern Ireland has been impacted by the introduction of **invasive alien species**. Species which have already become established in this area include:

- 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 72.2% of our surface waters and maintain good status in 100% of our groundwaters.

Current status and proposed objectives for surface waters in Owenkillew LMA



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

There are a number of measures which will be implemented in Owenkillew 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 Environmental Impact Assessment Directive (85/337/EEC);
- The Plant Protection Products Directive (91/414/EEC);
- The Urban Waste Water Treatment Directive;
- The Nitrates Directive (91/676/EEC);
- The Integrated Pollution Prevention Control Directive (96/61/EC); and
- The Habitats Directive (92/43/EEC).

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 resources;
- 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)
- 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

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.

Teal Lough Special Area of Conservation is in favourable condition. All the features of the River Foyle and Tributaries Special Area of Conservation have not been condition assessed. Water dependent features in Black Bog SAC are in unfavourable condition, but they are recovering with current measures. Owenkillew River SAC has 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	Supplementary Measures
Owenkillew River	Freshwater Pearl Mussel *(Margaritifera margaritifera*) unfavourable due to water management (including drainage, dredging or alterations to the water table. Could be too much water or too little)	There is currently 1 MOSS agreement and another currently being investigated. A total of 20 NICMS referrals were received from DARD relating to land adjacent to the designated site boundary. Riparian zones enhanced including fencing to protect the river bank and control of invasive species. Ballinderry Fish Hatchery ongoing research project.	Development of action plans for designated freshwater pearl mussel Special Areas of Conservation

There are no water dependent Special Protection Areas in this LMA. Further details on Special Areas of Conservation in Owenkillew 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: [1]Supplementary measures in Owenkillew LMA

Key sectors	Supplementary measures	Additional information
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.
Industry and other business	Improve compliance with discharge consents	There are 8 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**
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 are 0 HMWBs at <GEP and13 water bodies are affected by changes to morphology.
Pressure Unknown	Carry out further Investigation	There 7 water bodies where there are metal failures - copper and zinc There is 1 water body 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.

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 Owenkillew LMA.

Local measures are also being applied in this LMA. 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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