

# UK-ADAPT

[www.uk-adapt.org.uk](http://www.uk-adapt.org.uk)

## March 2007 Newsletter

*This newsletter is the eleventh of a series of monthly updates on the UK-ADAPT initiative. It is provided to all registered users on the UK-ADAPT website. Please forward to any colleagues that might be interested in UK-ADAPT and encourage them to use the website.*

### Overview

There has been limited activity on the UK-ADAPT website during March. We have a good database of relevant diffuse pollution projects but there is always scope for more, if you have any that you haven't yet added make this month the month you do!

### New Projects

There are 189 projects currently listed on the website. Please continue to review all diffuse pollution projects undertaken by your organisation since 2000 and consider registering them on UK-ADAPT. If anyone has a large number of projects to register, or any problems please contact Matthew Taylor for assistance on 01623 844331 or [uk-adapt@adas.co.uk](mailto:uk-adapt@adas.co.uk)

### The next UK-ADAPT workshop

For sometime now, we have been promoting the possibility of a UK-ADAPT workshop, based around the Defra consultation on catchment sensitive farming. At the time of writing this newsletter we believe the consultation will be released in June. We therefore anticipate that a meeting will take place in July, so please watch UK-ADAPT for further information. We will write to all subscribers as soon as we have a firm date.

### Peter Wolf Young Hydrologists Symposium – 28<sup>th</sup> 29<sup>th</sup> June at Newcastle University

Aims to bring together young hydrologists, both postgraduates and those working in industry, to promote exchange of hydrological ideas and experience, and to help establish networks among hydrology researchers.

Further details including registration and abstract submission forms are available on the symposium website: <http://www.ceg.ncl.ac.uk/yh07>

### Featured Case Study

Each newsletter features a flagship project that has recently been added to the UK-ADAPT website. This month we focus on the **Lough Melvin Programme**. This is a project that aims to develop a Catchment Management Plan (CMP) for Lough Melvin, which will promote good ecological status and address the primary catchment threats and consequent loss of biological integrity.

If you would like your project to be featured in next month's newsletter, please contact [uk-adapt@adas.co.uk](mailto:uk-adapt@adas.co.uk)



## Background

The Lough Melvin catchment drains an area of approximately 26,000 ha, 42% of which lies within Northern Ireland. The lake has a surface area of over 2,000 ha, being the 10<sup>th</sup> largest lake in Ireland, and is situated within the counties of Leitrim (ROI) and Fermanagh (NI). The main catchment landuses are extensive agriculture, housing and plantation forestry.

Lough Melvin is a mesotrophic (low-medium nutrient status) lake, which has been designated as a candidate Special Area of Conservation (SAC) under the EU Habitats Directive. It supports unique fish populations; three sub-species of brown trout, Atlantic Salmon and, a unique Arctic Char population. Significant vegetation communities also occur within the catchment area including *Molinia* meadows and sessile oak woodlands.

The health of Lough Melvin and its ecological communities is particularly vulnerable to catchment pressures and landscape uses. The most significant threat is nutrient enrichment and reduced biodiversity through trophic change.

## Lough Melvin Programme

The aim of the Lough Melvin Nutrient Reduction Programme is to develop a Catchment Management Plan (CMP) that will promote good ecological status and address the primary catchment threats and consequent loss of biological integrity. The CMP will provide a means of targeted catchment management to conserve ecological status as required by the EU Water Framework and Habitats Directives. Options, actions and recommendations from the CMP will be relevant for other mesotrophic catchments within the UK and Ireland.

The Programme is funded by the EU INTERREG IIIA Programme for Ireland/Northern Ireland and the project partners; Northern Regional Fisheries Board; Agri-Food and Biosciences Institute (AFBI) Northern Ireland; Queens University Belfast (Institute of Agri-Food and Land Use- IAFLU) Teagasc Research.

The Catchment Management Plan will incorporate outputs from four Project Strands. Project Partners are responsible for individual strands with the Northern Regional Fisheries Board (Strand 1) being responsible for overall co-ordination of the Programme. An outline of the strands and their objectives is provided below.

## Strand 1- Programme Co-ordination

Project Partner: Northern Regional Fisheries Board.

Aim: To produce a catchment management plan for Lough Melvin and its catchment that will promote "good ecological status" (as required by the Water Framework Directive) and could form the basis of a Biodiversity Action Plan (as may be required by the Habitats Directive) and;

To raise awareness and promote environmental controls, management, and improve environmental behaviour.

Activities:

- Convene and provide technical support to the Lough Melvin Catchment Management Group
- Link with project partners to ensure that information and data is collected and provided on a consistent basis
- Develop the existing GIS for Lough Melvin
- Collate and incorporate existing data into a catchment management information system
- Investigate the potential impacts of forestry and housing (wastewater) on Lough Melvin
- Provide a focal point for contacts with farms and residents in the catchment
- Financial management

### **Strand 2- Agri-Environmental**

Project Partner: Teagasc

Aim: To develop and provide an agri-environmental suite of measures to safeguard and improve the environment of the Lough Melvin catchment.

Activity:

Conduct 240 farm visits within the catchment to define and cost a programme of measures appropriate to extensive farming in order to reduce nutrient releases to Lough Melvin.

### **Strand 3- Economic Assessment**

Project Partner: Institute of Agri-Food and Land Use, Queens University Belfast

Aim: Conduct an economic assessment of costs and benefits of the proposed programme of agri-environmental measures. Investigate the use of "nutrient trading".

Activities:

- Conduct a questionnaire survey of 1,000 households on the Melvin catchment to determine Willingness to Pay (WTP) for the preservation of the trout and char populations of Lough Melvin.
- Assess the relative costs and benefits of each of the options offered by Strand 2 using the data obtained from farm surveys.
- Examine the possibility of nutrient trading by reviewing best practice elsewhere, the information base required to operate and evaluate the scheme, and the legislative framework required for application in a cross-border catchment.

### **Strand 4- Water Quality and Isotope Analysis**

Project Partner: Agri-Food and Biosciences Institute (AFBI)

Aim: To complete a water quality analysis programme for Lough Melvin and its inflowing river network with specific emphasis on nutrients and their sources.

Activities:

- Conduct a water quality monitoring programme of the lake and inflowing rivers (covering nutrients, algal abundance and oxygen status)
- Conduct stable isotope analysis of biota in lake to determine the relative importance of external and internal nutrient sources to Lough Melvin food-webs. Determine sources of carbon to Lough Melvin and their influence on productivity.

### **Timescales**

The Programme commenced in November 2005 and is due for completion 30th June 2008.