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**UK Acid Waters Monitoring Network (UKAWMN)
Llyn Cwm Mynach, Afon Hafren and Afon Gwy
Annual Summary Progress Report. April 12 - March 13**

**E. M. Shilland
March 2013**

**UK ACID WATERS MONITORING NETWORK (UKAWMN) –
CONTRACT 22 01 249**

LLYN CWM MYNACH, AFON HAFREN AND AFON GWY

ANNUAL SUMMARY PROGRESS REPORT April 2012 - March 2013

**REPORT TO THE WELSH GOVERNMENT, COUNTRYSIDE
COUNCIL FOR WALES AND ENVIRONMENT AGENCY, WALES**

Ewan M. Shilland

March 2013

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Cover photo: Llyn Cwm Mynach, July 2012. © Charlotte Hall

3 Llyn Cwm Mynach



Figure 1 Llyn Cwm Mynach. Looking southwest from the north east end of the lake, 24th July 2012.

3.1 Summary Overview

Chemical and biological sample collection, analysis and data collation, quality control and archiving proceeded without any problems at Llyn Cwm Mynach during the period from April 2012 to March 2013.

3.2 Water Chemistry

Samples were collected by CEH in early June, September and December 2012, delivered to the analytical laboratories on schedule and have been analysed, quality controlled and archived in the UKAWMN central chemistry database at CEH Lancaster. March 2013 samples have been collected and are in the process of being analysed.

3.3 Sediment Traps

Sediment traps were recovered and replaced on the 24th of July 2012 by a team from ENSIS. Diatoms in the sediment retrieved from the traps have being analysed and await quality screened before being added to the UKAWMN biological database at ENSIS.

3.4 Thermistors

Lake top and bottom thermistors were removed and replaced on the 24th of July 2012 by a team from ENSIS. Both had functioned well during the previous year and the data were added to the ENSIS thermistor water temperature database.

3.5 Epilithic Diatoms

Epilithic diatoms were retrieved by a team from ENSIS from three sampling points around the lake on the 24th of July 2012. The samples have being analysed and await quality screened before being added to the UKAWMN biological database at ENSIS.

3.6 Macroinvertebrates

Aquatic macroinvertebrates were sampled on the 18th April 2012 by a team from QMuL. Five 1 minute kick samples were performed. The samples were counted and the data sent to ENSIS Ltd. The data is in the process of being quality screened before being added to the UKAWMN biological database at ENSIS.

3.7 Fish

Fish surveying was performed on the 11th October 2012 by the Game and Wildlife Conservation Trust. The data have been forwarded to ENSIS Ltd, quality screened and added to the UKAWMN biological database at ENSIS.

3.8 Aquatic Macrophytes

Aquatic macrophytes were surveyed by a team from ENSIS on 24th of July 2012 using both UKAWMN and CSM standard methodologies. Data will be added to the ENSIS biological database after microscope confirmation of bryophyte identifications.

3.9 Data Management and Reporting

No problems or hiatus occurred with the collation and transfer of data within methodological programmes, or to the UKAWMN databases, during the reporting period.

Work on the 2011-2012 annual report is underway and it should be uploaded to the UKAWMN web page in April 2013.

The UKAWMN website page detailing Llyn Cwm Mynach is here:

http://awmn.defra.gov.uk/sites/site_16.php

Further publications from the contract period utilizing UKAWMN data from Llyn Cwm Mynach are detailed in section 3.10 below. Section 3.11 provides a bibliography for the site.

3.10 Llyn Cwm Mynach Recent UKAWMN Output

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4 Afon Hafren



Figure 2 Afon Hafren biological survey section 4th July 2012

4.1 Summary Overview

Chemical and biological sample collection, analysis and data collation, quality control and archiving proceeded without any problems at Afon Hafren during the period from April 2012 to March 2013.

4.2 Water Chemistry

Samples were collected by CEH early every month throughout the period April 2012 to March 2013, delivered to the analytical laboratories on schedule and are in the process of being analysed, quality controlled and archived in the UKAWMN central chemistry database at CEH Lancaster.

4.3 Thermistors

The CEH thermistor at Afon Hafren functioned well throughout the period April 2012 to March 2013. Data up to early March 2013 have been downloaded, checked and archived in the central CEH temperature database.

4.4 Epilithic Diatoms

Epilithic diatoms were retrieved by a team from ENSIS from three sampling points in the stream on the 4th of July 2012. The samples have been made into slides and are currently in the process of being analysed.

4.5 Macroinvertebrates

Aquatic macroinvertebrates were sampled on the 18th April 2012 by a team from QMuL. Five 1 minute kick samples were performed. The samples were counted and the data sent to ENSIS Ltd. The data is in the process of being quality screened before being added to the UKAWMN biological database at ENSIS.

4.6 Fish

Fish surveying was performed on the 25th October 2012 by a team from the Game and Wildlife Conservation Trust. Unfortunately the field balance malfunctioned and the majority of fish could not be weighed. The data have been forwarded to ENSIS Ltd, quality screened and added to the UKAWMN biological database at ENSIS.

4.7 Aquatic Macrophytes

Aquatic macrophytes were surveyed by a team from ENSIS on 4th of July 2012. Percentage cover scores were recorded and data will be added to the ENSIS biological database after microscope confirmation of bryophyte identifications.

4.8 Data Management and Reporting

No problems or hiatus occurred with the collation and transfer of data within methodological programmes, or to the UKAWMN databases, during the reporting period.

Work on the 2011-2012 annual report is underway and it should be uploaded to the AWMN web page in April 2013.

The UKAWMN website page detailing Afon Hafren can be found here:
http://awmn.defra.gov.uk/sites/site_17.php

Further publications from the contract period utilizing UKAWMN data from Afon Hafren are detailed in section 4.9 below. Section 4.10 provides a bibliography for the site.

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5 Afon Gwy



Figure 3 Afon Gwy biological survey section 4th July 2012

5.1 Summary Overview

Chemical and biological sample collection, analysis and data collation, quality control and archiving proceeded without any problems at Afon Gwy during the period from April 2012 to March 2013.

5.2 Water Chemistry

Samples were collected by CEH early every month throughout the period April 2012 to March 2013, delivered to the analytical laboratories on schedule and are in the process of being analysed, quality controlled and archived in the UKAWMN central chemistry database at CEH Lancaster.

5.3 Thermistors

A thermistor, supplied by Marine Scotland, was downloaded and replaced on 4th of July 2012 by a team from ENSIS Ltd. It had functioned well during the previous year and the data were added to the ENSIS thermistor water temperature database.

5.4 Epilithic Diatoms

Epilithic diatoms were retrieved by a team from ENSIS from three sampling points in the stream on the 4th of July 2012. The samples have been made into slides and are currently in the process of being analysed.

5.5 Macroinvertebrates

Aquatic macroinvertebrates were sampled on the 18th April 2012 by a team from QMuL. Five 1 minute kick samples were performed. The samples were counted and the data sent to ENSIS Ltd. The data is in the process of being quality screened before being added to the UKAWMN biological database at ENSIS.

5.6 Fish

Fish surveying was performed on the 26th October 2012 by a team from the Game and Wildlife Conservation Trust. The data have been forwarded to ENSIS Ltd, quality screened and added to the UKAWMN biological database at ENSIS

5.7 Aquatic Macrophytes

Aquatic macrophytes were surveyed by a team from ENSIS on 4th of July. Percentage cover scores were recorded and data will be added to the ENSIS biological database after microscope confirmation of bryophyte identifications.

5.8 Data Management and Reporting

No problems or hiatus occurred with the collation and transfer of data within methodological programmes, or to the UKAWMN databases, during the reporting period.

Work on the 2011-2012 annual report is underway and it should be uploaded to the AWMN web page in April 2013.

The UKAWMN website page detailing Afon Gwy can be found here:
http://awmn.defra.gov.uk/sites/site_18.php

Further publications from the contract period utilizing UKAWMN data from Afon Gwy are detailed in section 5.9 below. Section 5.10 provides a bibliography for the site.

5.9 Afon Gwy Recent UKAWMN Output

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