



Project no. **GOCE-CT-2003-505540**

Project acronym: **Euro-limpacs**

Project full name: **Integrated Project to evaluate the Impacts of Global Change on European Freshwater Ecosystems**

Instrument type: **Integrated Project**

Priority name: **Sustainable Development**

**Deliverable No. 15**  
**Data exchange and integration between WP2 & WP6 partners (NERC-CEH and AERC-University of Reading)**

Due date of deliverable: **Month 12**  
Actual submission date: **31/01/2005**

Start date of project: **1 February 2004**

Duration: **5 Years**

Organisation name of lead contractor for this deliverable:  
**NERC-CEH – John Murphy**

## Introduction

At the kick-off meeting at Innsbruck Dr Andrew Wade (AERC) met with Drs. Mick Furse and John Murphy (NERC-CEH) to discuss possibility for cooperation in collating environmental data for the Lambourn catchment (one of the 40 key sites within the Euro-limpacs project).

Later in the summer AW, MF & JM met at Reading to discuss data holdings and scientific objectives within Euro-limpacs. We agreed to exchange data sets, where possible, and to keep in contact as our analyses progressed.

### Data received by NERC-CEH from AERC

Data type	Site	Period	Owner/Source
Water Chemistry	4 sites on Lambourn & 7 sites on Kennet	Lambourn (2002/03) Kennet (1997/98)	NERC-funded LOCAR project NER/T/S/2001/00942 <sup>12</sup>
Water Chemistry	11 sites	Various periods depending on the site between mid 1970s and present	Environment Agency
Metadata base of Hydrological and Hydrochemical data sources	R. Pang, Lambourn and Kennet	Various periods depending on the site between mid 1970s and present	NERC-funded LOCAR thematic programme/AERC
Effluent chemistry	7 sites	Various periods depending on the site between mid 1970s and present	Environment Agency
Water abstraction details	N/A	Yearly Totals for 1970-1982 Monthly Totals for 1983-2002	Environment Agency

### Data sent by NERC-CEH to AERC

Data type	Site	Period	Owner
Macrophyte and associated macroinvertebrate	1 site (Lambourn @ Bagnor)	mid-1970s & late 1990s	NERC-CEH <sup>3</sup>

<sup>1</sup> Neal, C., Jarvie, H.P., Wade, A.J. and Whitehead, P.G. (2002) Water quality functioning of lowland permeable catchments: inferences from an intensive study of the River Kennet and Upper Thames. *Sci. Tot. Enviro.* 282/283, 471-490.

<sup>2</sup> Neal, C., Jarvie, H.P., Wade, A.J., Neal, M., Wyatt, R., Turner, H., Hill, L. and Hewitt, E. (2004) The water quality of the LOCAR Pang and Lambourn catchments. *Hydrol. Earth Syst. Sci.*, in press.

<sup>3</sup> Wright, J.F., Clarke, R.T., Gunn, R.J.M., Winder, J.M., Kneebone, N.T., & Davy-Bowker, J (2003). Response of the flora and macroinvertebrate fauna of a chalk stream site to changes in management. *Freshwater Biology*, 48, 894-911.

community  
composition

Mesohabitat-specific macroinvertebrate community benthic density	3 sites (Kennet @ Littlecote Upper Saversnake & Lower Saversnake)	mid-1970s & late 1990s	NERC-CEH <sup>45</sup>
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<sup>4</sup> Wright, J.F., Gunn, R.J.M., Winder, J.M., Wiggers R., Vowles, K., Clarke, R.T. & Harris I. (2002) A comparison of the macrophyte cover and macroinvertebrate fauna at three sites on the River Kennet in the mid 1970s and the late 1990s. *Science of the Total Environment*, 282-283, 121-142.

<sup>5</sup> Wright, J.F., Clarke, R.T., Gunn, R.J.M., Kneebone, N.T., & Davy-Bowker, J (2004). Impact of major changes in flow regime on the macroinvertebrate assemblages of four chalk stream sites, 1997-2001. *River Research and Applications*, 20, 775-794.

**Sediment data River Gail (Killingseder, 1998)**

(BOKU)

Data of this river were made available concerning:

- surface runoff (intense rain events)
- catchment area
- landscape morphology
- geology
- land use
- main relevant sediment sources
- sieve analyses
- bed load: the bed load was calculated for the main tributaries
- sediment load: the sediment load was estimated following SMART & JÄGGI (1983)

In WP6 it is intended to calculate:

changes in sediment transport in dependency on changes in land use  
INCA for modeling