

KE PROGRAMME FOUR-MONTHLY REPORT

Name of KE Programme	Water Security Knowledge Exchange Programme	
KEP Lead	Prof Alan Jenkins	
Reporting Period	From: 1st April 2012	To: 31st July 2012
Date of submission	31st August 2012	
Signed	Alan Jenkins	

1. Key Activities

Please list key activities, meetings, workshops etc. that the KEP has undertaken or participated in this period

The report below lists the key activities and achievements by Work Package (WP), during the reporting period. (Section 2 below, lists outputs and Section 3 lists key outcomes and impacts.) Much of the work described was planned and took place before the final feedback from the KEAB was received.

WP1- Identify key needs and science challenges faced by the users

Work Package 1 was completed during the first reporting period. There is nothing extra to report.

WP2 - Identify the science that matches the key needs and challenges of the users

There are three parts to WP2 with the main aim to create a database of (part 1) UK Institutions undertaking water related science where information on (part 2) contacts, research and (part 3) outputs is recorded.

Parts one and two went live at the beginning of this reporting period in April. There are currently in excess of 300 registrations. This UK Water Research Directory (<http://www.ukwaterresearch.net/>) lists PI's and Co-PI's of freshwater projects in the NERC GOTW, and is further enhanced with details of a) researchers who have attended WSKEP events, b) from web searching University websites, or c) researchers who have self-registered their interest in being included in the Directory. The Directory has been advertised widely at all events that the WSKEP team have attended (BHS National Symposium, WSKEP Workshops, and others). Since April, we have designed the way in which scientific outputs will be added to the Directory. It is becoming a very useful resource for businesses, allowing them to search for researchers in their specialist fields of interest. We have also integrated a request from British Water to gather and include information on innovations that could help the water industry. During the next reporting period these plans to add scientific outputs to the Directory will be put into action.

WP3 - Organise Events and Activities to bring together the users and scientists

This Work Package is divided into three parts, 1) the organisation of 10 Workshops during months 1-18 on defined specific priority subjects, 2) activities with users to identify areas where the WSKEP could support their programmes of work and 3) activities to increase impact from recent Research Programmes.

During the reporting period six Phase 1 Workshops were held (four Sub Area 2 Workshops and one each from Sub Areas 1 and 3). This completed the ten Workshops for this Phase. They all well attended with representation from key individuals from relevant organisations. New partnerships we forged and discussion produced excellent synthesis of the major challenges in the respective priority subject areas. Participant reports were circulated to all who attended and Summary reports have been produced and published on the website for six of the Workshops. The Summary Reports from the later workshops will be published shortly. A Sub Area Development Meeting was held on 21st June where the research recommendations from all the Workshops were discussed and prioritised for further action by the WSKEP. The PMG have subsequently assessed routes by which the top priority actions from each Sub Area can be taken forward and will report its recommendations in a separate document. The PMG commissioned Richard Blackmore of Research Impact Consulting to follow up on the outcomes of the Phase 1 Workshops. One of the objectives of the Workshops is to initiate collaboration between the researchers and users that attended. The project is gathering information by questionnaire about these collaborations, and will recommend new approaches that can be included in any future workshops that will increase the number and effectiveness of post-event collaborations. Early results indicate that a number of new collaborations have been formed with these proceeding to research and demonstration projects funded by industry and government partners.

User Based Activities during this period have focussed on delivery of several projects requested and funded by Defra/EA, and in working with industry groups to define user needs, mechanism and scheduling of delivering academia-industry collaboration. Actions during the reporting period include monitoring progress on actions developed with Defra/EA during previous reporting periods, for example on methodologies for undertaking Synthesis Reports, national water quality scenarios using UKCIP09, a Systematic Review on natural, restored and constructed wetlands, an international conference on methods for determining environmental flows. Work has continued in the general area of identifying methods and tools by which Defra/EA can access policy relevant

knowledge from the vast amount of national, European and international research. In response to a Defra/EA request, the WSKEP has developed a demonstrator web based tool which would enable Defra/EA staff to pose questions for which they are seeking advice from the research community.

Industry User Based activities have focussed upon building up relationships with key user groups, and working with their established academic partners to increase and diversify that industry's access and use of NERC science. Key industry sectors include, for example water utilities (where Exeter University has been commissioned to extend the work they are doing with Southwest Water on carbon sequestration to four other water utilities), grocery sector where the WSKEP has been working with Cranfield University to expand current work on increasing resilience to droughts, and with the financial sector (CDP-Water and the Financial Service KTN) to identify topics where academic partners can work with CDP-Water and its industry partners. Dialogue has also taken place with the following other industry sectors – electricity power generators, extractive industry, the consulting sector and British Waterways. The WSKEP has supported the involvement of academics in water innovation actions being run by trade and professional associations – eg British Water, Water Industry Forum, Water Innovation Network.

Limited progress has been made on the third task during this reporting period (KE actions in relation to recently completed NERC Research Programmes (RPs). Based on RELU outputs, Lancaster University completed a Case Study/ Best Practice guide on the local stakeholder involvement catchment management schemes, which has been made available through the Catchment Change Network knowledge hub to those involved in the Defra/EA catchment based approach. Similar activities by Bangor University in partnership with the Welsh Environmental Research Hub is developing Case Studies / Best practice guidance for industry and regulators involved in integrating the ecosystem services approach into delivery of the WFD. Due to staff constraints Imperial College has withdrawn from its initial undertaking to run a KE activity with the consulting sector and the EA on the use of the improved groundwater modelling of the unsaturated zone that was developed under the LOCAR RP.

WP4 - Connect and coordinate KE across NERC

This Work Package is divided into two parts, 1) is about connecting and communicating with other groups whilst part 2) concerns the management and maintenance of the WSKEP website.

KE Networks: The WSKEP has undertaken several types of activity to support the NERC Catchment Change Network – CCN (based at Lancaster). The first priority has been to put in place new funding lines which would take the network beyond the end dates of its NERC funding. The WSKEP highlighted the need for additional funding for CCN to Defra/EA and supported a researcher-stakeholder workshop in May to identify relevant knowledge to support a knowledge hub for the Defra/EA Pilots.

KE Fellows: The WSKEP undertakes activities to support and add value to the NERC KE Fellows. Rachel Dearden attended and contributed to the Wallingford Workshop on the 'Supporting sustainable and resilient management of extreme rainfall'. She has been instrumental in demonstrating mechanisms by which KE activities can be delivered to Local Government Authorities and consultants. The WSKEP has provided Rachel with access to a range of other key stakeholders with whom she can develop her SUDS related methods and tools. Tanya Warnaars has been provided with advice and support in contacting stakeholders, in discussions with the Financial Services KTN – she is in the process of planning an event on the Nitrogen cycle in the Autumn 2012.

Other KE Networks: WSKEP have commissioned Alastair Moseley to undertake a mapping of professional, trade associations, societies or informal interest groups involved in water related knowledge exchange activities. The mapping will involve a compilation of the description of the activities undertaken and subjects covered by these networks and include contact details and web addresses. This is due to be completed in the autumn.

Dan Osborn is the NERC Lead on LWEC and the WSKEP have met with him to discuss ways to collaborate on the GO-Science LWEC UK Water Research and Innovation Framework (UK WRIF) Initiative. The WSKEP supported and attended a UKWRIF Workshop in early May that was organised by UKWIR and Tony Rachwall on Water Infrastructure R&D needs. The WSKEP has offered support to Louise Heathwaite to organise a Think Tank on the environmental KE dimensions to the UKWRIF.

WSKEP have been in discussion with those setting up the new NERC Drought and Flood calls. The outcomes of the four Drought and Floods Workshops have been fed through to influence the direction of the new Research Programmes. Ned Garnett used the outcomes from the WSKEP SPS workshop on drought management to convince ESRC to co-fund the forthcoming Research programme on Droughts.

The WSKEP website (<http://www.wskep.net/index.php>) has grown and developed significantly during the reporting period. It was launched in March and has now become well respected site for water security information. The events calendar is kept up to date with WSKEP and other national and international conferences and meetings. Newsletters (e-zines) are sent out monthly highlighting WSKEP activities and others supported by the Programme. Tweets are posted about once a week as well as when the website is updated.

WP5 - Communicate with the science and user communities

This Work Package is divided into two parts, 1) is about writing and maintaining a Communication Plan whilst part 2) is about organising a High Level event.

The WSKEP Communication Plan was reviewed at the PAG meeting in May. It is a living document and updated regularly. The PAG requested to see the overall WSKEP strategy up front so this has been added to the Plan.

The High Level Event was discussed at the PAG meeting in May where it was decided that it should attract a high level audience and that Duncan Wingham should be invited. Initial plans for a September event have been postponed as Parliament will be in recess. This event will probably take place in the spring of 2013.

WP6 - Act as a KE Ambassador

This WP is an ongoing activity whereby the good practice in relation to KE is shared among the NERC community. Opportunities to share experiences have been undertaken whenever possible, for example at each of our Specific Priority Subject Workshops and at the Sub Area development meeting. The WSKEP has interacted with other NERC KE networks and programmes, those of other Research Councils, other University led proposals, initiatives by sponsored government departments and devolved governments, trade and professional associations and European and international KE networks. Across this wide range of communities, the WSKEP has been able to highlight NERC's commitment to, and leadership in water related knowledge exchange.

WP7 - Manage the WSKEP

This WP relates to the management of the Programme by the PMG. The PMG meets on a monthly basis to discuss progress, issues and upcoming events. Minutes are prepared for all meetings and actions are followed up.

The PAG consists of individuals who volunteer their time and who have been selected in order to provide a diverse range of insights into water related issues. The fourth PAG meeting was held on 8th May 2012 at CEH Wallingford and was minuted and actions completed.

The PMG regularly updates a risk register, with the latest version to be reviewed at the next PAG meeting on 11th September 2012. The PMG has completed the third Interim report to the NERC KE Advisory Board.

2. Key Outputs

Please list and summarise the key outputs generated from KEP activities in this period (i.e. projects, partnerships, reports etc)

- UK Water Research Directory (<http://www.ukwaterresearch.net/>)
- Workshop Full Participant Outcomes Reports (for six Workshops)
- Workshop Summary Reports (for six Workshops)
- Sub Area Development Meeting Report
- Report to the NERC KE Advisory Board
- Case Study Best Practice from RELU on local stakeholder participation in catchment management
- Meetings with users to discuss their needs in relation to water.
- Oral presentation of published paper at the British Hydrological Society's Eleventh National Symposium

3. Key Outcomes and Impact

Please provide details of the outcomes and impact KEP outputs have generated during this period (i.e. the 'so what' factor)

The Research Directory will allow the business community to search for and contact researchers working on problems relevant to their areas of interest. Industry networks have expressed an interest in taking over the Directory, and in developing complementary functionality with their own web-based tools.

Participants at the Workshops report making new contacts, developing collaborative research (eg Manchester airport with Lancaster University), and forming agreements to work together on submitting proposals and winning bids

The Sub Area Development meeting has produced a comprehensive synthesis of main short, medium and long term priorities of users. This has helped shape a broad consensus among leading contributors to the WSKEP, and set the priorities for follow-up action by WSKEP PMG.

The methodology for writing Synthesis Reports is being trialled across several parts of the EA and is expected to define best practice for Defra/EA methods to access knowledge / evidence from the research base.

WSKEP support for the NERC CCN has enabled this network to remain the preferred route for delivery of a knowledge hub for the Defra/EA catchment based approach. WSKEP support has also ensured that other NERC data, knowledge and expertise will be an integral part of the next generation of web based knowledge provision to stakeholders (third sector organisations, industries, consultants and government bodies) involved in implementing the catchment based approach across England and Wales.

KE Fellows – The WSKEP has enabled KE Fellows Viki Hurst (Leeds), Rachel Dearden (BGS) and Tanya Warnaars (CEH) to increase the involvement of key users in their activities. It is expected that WSKEP will assist them to increase the involvement on industry users in their respective activities.

There has been wide ranging positive feedback from different user groups concerning the functionality and contents of the WSKEP website. Analysis of visitor statistics indicates that visitors are coming from a wide range of sectors and many different research establishments. These statistics also show that the e-zine is being opened and read by a high proportion of those on the distribution list, seeking further information about different news

stories and events.

4. Progress against deliverables due during this reporting period or delayed from a previous period

Deliverable	WP	Proposed date	Actual date	Reason for deviation
List of key users produced during KCP reviewed (with more added throughout the life of the Programme)	1	Apr 2011	Ongoing	
Questionnaire of user needs and research gaps prepared and distributed	1	Apr 2011	Overtaken by events	Questionnaire not needed after Launch
NERC funded science Institutions who undertake science of relevance to users identified (with more added throughout the life of the Programme)	2	Apr 2011 (Ongoing)	Ongoing	
Make links with key NERC KE Programmes and projects	4	Apr 2011 (Ongoing)	Ongoing	
Management of information relating to KE and research funding calls	4	Apr 2011 (Ongoing)	Ongoing	
Maintenance and management of the WSKEP website	4	Apr 2011 (Ongoing)	Maintenance ongoing	
First PAG Meeting – Minutes & Recommendations	7	Apr 2011	Completed	
Questionnaire results collected, collated, prioritised and reported	1	May 2011	Overtaken by events	Questionnaire not needed after Launch
Management of a Register of KE activities	4	May 2011 (Ongoing)	Ongoing	
Bi-Monthly e-newsletter published	5	May 2011 (Ongoing)	Ongoing	
Report of priorities as refined by Launch workshop	1	Jun 2011	Completed	
List of five key Sub Areas on which to focus effort reviewed by the PAG	1	Jun 2011	Completed	
Specific Priority Subjects for top three Sub Areas identified by the PAG	1	Jun 2011	Completed	
User Based KE Events held as appropriate	3	Jun 2011 – May 2012	Ongoing	
Planning for Sub Area Workshops	3	Jul 2011 – Apr 2012	Completed June 2012	
Coordination Plan of NERC water related KE Activities (Fellows, projects etc)	3	Jul 2011	Ongoing	
Reports and notes on individual KE integration activities	3	Jul 2011 – May 2012	Ongoing	
A compendium of case studies	4	Jul 2011 (Ongoing)	Started	In discussion with Richard Blackmore
A calendar of KE events	4	Jul 2011 (Ongoing)	Ongoing	
First Interim Report to NERC Executive Board	7	Jul 2011	Completed	
Reports on delivery of ten Sub Area workshops	3	Aug 2011 – Apr 2012	Ongoing	10 Full and 6 Summary reports completed
Second PAG Meeting – Minutes & Recommendations	7	Aug 2011	Completed	
Online compendium setup of what research has been / is being conducted which relates to user needs	2	Sept 2011	Completed 31/03/12	
Business friendly database of related scientific outputs from the relevant NERC funded Institutions setup.	2	Sept 2011	Started	To be implemented in next period
Communication Strategy written	5	Sept 2011	Completed	
Second Interim Report to NERC Executive Board	7	Nov 2011	Completed	
Third PAG Meeting – Minutes & Recommendations	7	Dec 2011	Completed	
First Annual Report to NERC Executive Board	7	Mar 2012	Completed 04/05/12	
Fourth PAG Meeting – Minutes & Recommendations	7	Apr 2012	Completed	
Report on Review workshop of each Sub Area	3	May 2012	Completed July 2012	

Review workshop of different User groups	3	May 2012	N/A	
Report of KE Coordination Review	3	May 2012	Delayed	Slow PI responses
First High Level event	5	Jul 2012 – Aug 2012	Started	Event planned for 11/09/12 postponed
Fourth Interim Report to NERC Executive Board	7	Jul 2012	Completed 31/08/12	
Planning for Sub Area Workshops	3	Aug 2012 – Oct 2012	Started	On hold while Phase 2 is reviewed
Fifth PAG Meeting – Minutes & Recommendations	7	Aug 2012	Started	Papers sent to PAG members end August

5. Key problems / Lessons learnt

Please identify any problems or serious risks (e.g. technical, financial) that have prevented the achievement of planned targets for this period or that are likely to affect the programme in the future; please comment on any mitigation plans / lessons learnt as a result of these issues.

The planning of the Development meeting posed a number of interesting challenges related to ensuring the outcomes represented an accurate synthesis of the major outcomes from each individual SPS workshop. This type of meeting was quite unfamiliar to many of the delegates, but through careful moderation it was possible to identify short medium and long term priorities.

Deliver of many of the WSKEP activities depend upon other third parties. While many of these have been research organisations – the increased emphasis upon industry relevance will mean that the next round of activities will need a stronger industry lead in planning and delivery of KE actions.

It has taken considerable time for industry groups to understand what the WSKEP is seeking to do, and how it can complement industry wide needs from knowledge and innovation. This underlines the fact that building stronger research -user collaboration is a long term process. While the development processes have been quite slow with some industry groups, once decisions are made to proceed, industry groups expect actions to start very quickly.

6. Key Opportunities

Please summarise key opportunities for the KEP and/or NERC identified during this period

The UKWRIP is a potentially powerful mechanism to build long term improvements in the UK's water related knowledge exchange. The WSKEP has sought to support the UKWRIP wherever possible, including following up on the workshop organised by UKWIR and Surrey University (Tony Rachwal) on Water Infrastructure research.

Stronger relationships have been built with NERC RP programme managers, with the WSKEP playing a role in the development of both the Floods from Intense Rainfall and the Droughts RP's. In addition, good contacts have been built with the NERC Macronutrients Programme manager (Paul Whitehead).

7. Plans for the next period

Please summarise key activities planned for the next period and provide details of plans already in place to achieve these

Activities planned for the next period include:

- Revise the Programme Framework for the second Phase, focusing upon industry related KE.
- Plan how to take forward the first Phase Sub Area Development meeting recommendations
- CIWEM/WSKEP Conference on Innovation and the Water Sector
- Fifth PAG meeting on 11th September
- Development of and Call for Industry Impact Awards
- UK Water Research Directory – increase Numbers in Directory and implement part 3.
- Development of a web based Discussion Board - E-Response
- Increase involvement in industry related water KE for a, conferences etc
- Use outputs from the networks mapping exercise to increase impacts of WSKEP communications.

8. Other

Please provide any additional information which helps to describe progress in this period

There is no additional information to report during this period.