



WATER SECURITY

Knowledge Exchange Programme



Outcomes of the Natural Environment Research Councils (NERC) Water Security Knowledge Exchange Programme (WSKEP)

Kay Heuser, Graham Leeks and Isabella Tindall



WSKEP Overall Objectives

- To improve efficiency and resilience in the UK
- To increase competitiveness in global markets
- To increase the uptake of NERC research outputs in the water security area by :
 - Businesses
 - Policy makers
 - Regulators and local government
 - Civil Society Organisations (CSOs)
- To obtain and raise awareness of user needs among research funders (NERC, other Research Councils, LWEC, TSB, etc).



The Programme

- £1.5 Million from Natural Environment Research Council
- £0.3 Million from Centre for Ecology and Hydrology
- 3 years April 2011 – March 2014
- Management at the Centre for Ecology and Hydrology
- Equivalent of 3 Full time posts
- Programme Advisory Group

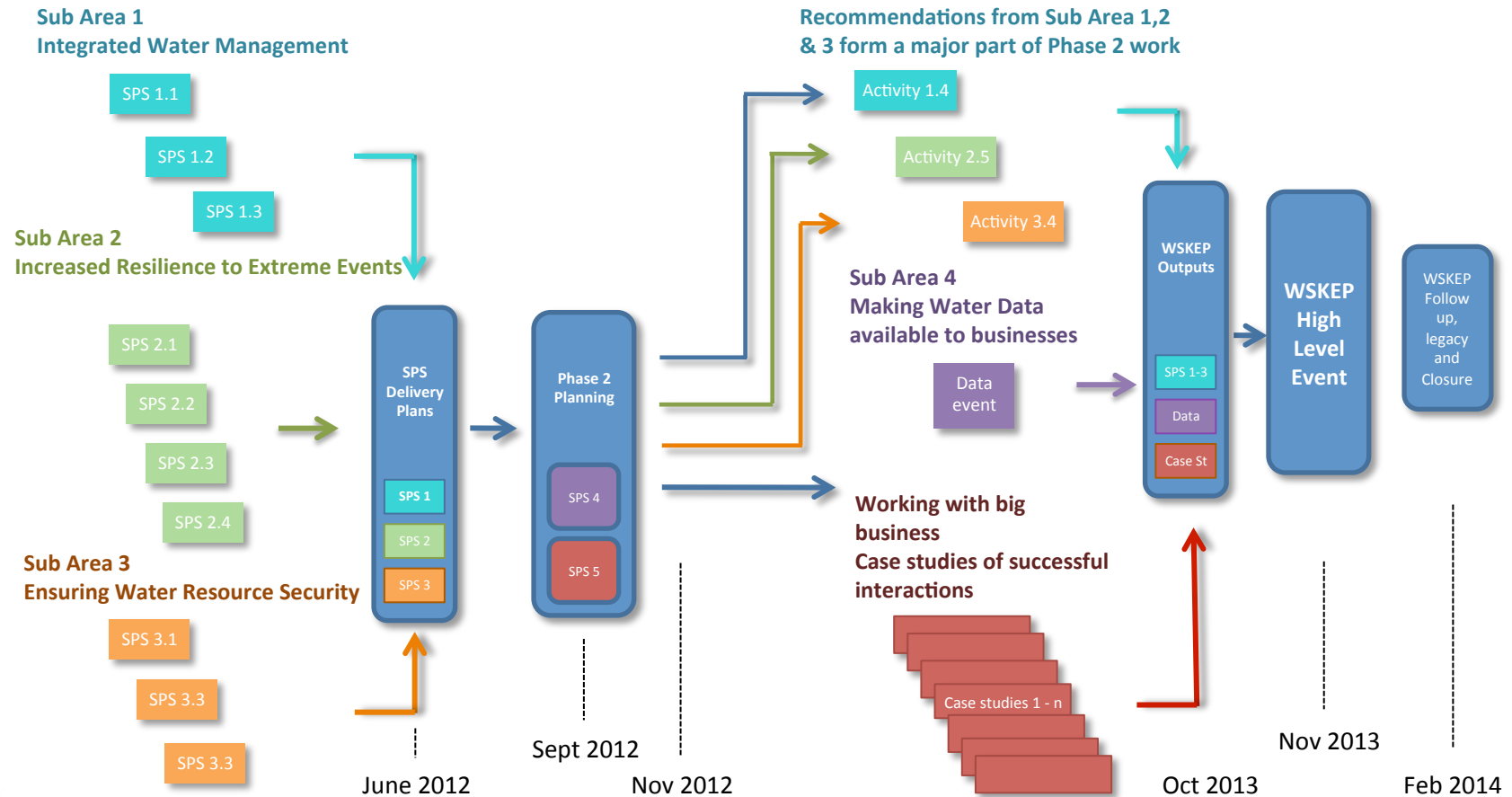


Programme Activities

- Workshops
- Westminster Reception
- User Based Activities
- Engagement with Business
- Coordination of NERC KE activities
- Outreach



Revised business orientated Programme plan





Workshops

- 344 delegates were registered to attend with 208 coming from user groups and 142 coming from academia
- Study conducted to identify collaborations arising from the series of Workshops
- Out of 71 responders, 50 reported opportunities for collaborations and 27 partnerships had already been initiated.

Collaborations arising from WSKEP Workshops

Draft 3

Richard Blackmore

Confidentiality:

All information included in this report regarding specific research collaborations has been provided by WSKEP workshop participants in confidence, and should not be disclosed publicly without their written consent.



Westminster Reception

- Brought together industry, government and academia to discuss recent initiatives to encourage water management
- Brought together leaders from diverse sectors where water is either a major risk or where it provides an opportunity
- The event helped accelerate progress in areas of research and innovation that will help manage these risks and exploit opportunities





User Based Activities

- **British Water**
 - Researchers and British Water Members present latest research to water utilities
 - 13 Innovation Exchanges held with 453 10 minute presentations given
- **Environmental Sustainability Knowledge Transfer Network (ESKTN)**
 - Workshop held to engage with agri-food businesses and retailers at the UK regional level
 - Gain a better understanding of using water related service valuation tools
- **UK Groundwater Forum**
 - Key messages was the importance of the water community speaking to the public and decision makers as one unified voice
 - Need to get Groundwater on the National Curriculum and better represented in schools
- **Water-Food-Energy Nexus**
 - Exeter University Think Tank to develop a shared view of the challenges of water-food-energy security
 - £7m bid was submitted to the EPSRC Programme Grants



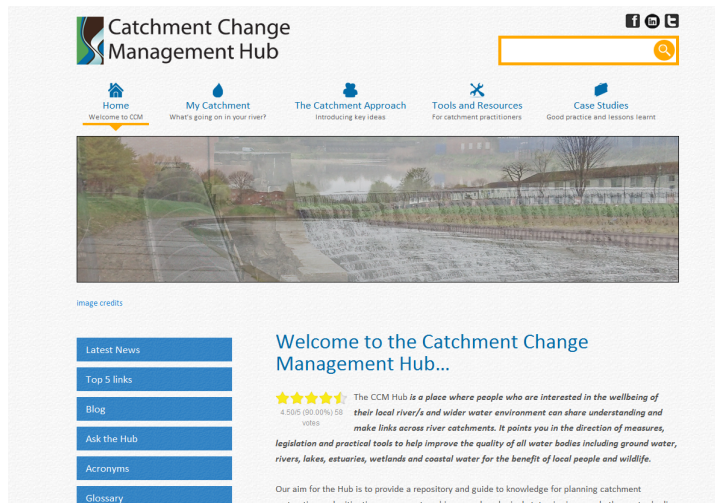
Engagement with Businesses

- Businesses the programme has been in discussion with:
 - Severn Trent Water, South West Water and Yorkshire Water
 - Lafarge
 - Network Rail
 - BT
 - BP and Shell
 - Marks and Spencer
 - Danone
 - Coca-Cola
 - Scottish Coal
 - ASDA
 - Heineken



Coordination of NERC KE activities

- Catchment Change Network – supported the development of the Catchment Change Management Hub website <http://ccmhub.net>



- WSKEP assisted the Better Thames Network in obtaining high level Defra/EA support for funding beyond the close of their NERC grant
- Provided KE Fellows with advice and support in contacting stakeholders



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Publications



Natural Environment Research Council

Water Quantity: Synergies between Agriculture and Water Utilities

Final Report



This report has been commissioned by the NERC Water Security Knowledge Exchange Programme

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The potential of using the Ecosystem Approach in the implementation of the EU Water Framework Directive

M. Vlachopoulou^a, D. Coughlin^{a,c}, D. Forman^a, S. Kirk^{c,d}, P. Logan^a, N. Voulvoulis^{a,b}

^a Centre for Environmental Policy, Imperial College London, London SW7 2AZ, UK
^b Institute for Environmental and Human Health, Brunel University, Brunel Road, Uxbridge, Middlesex, UK
^c School of Environmental and Water Resources Engineering, Asian Institute of Technology, Pathum Thani, Thailand
^d School of Environmental and Water Resources Engineering, Asian Institute of Technology, Pathum Thani, Thailand

HIGHLIGHTS

- We investigated how the Ecosystem Approach could facilitate WFD implementation.
- A framework linking ecosystem services and water management objectives is proposed.
- The benefits of using the Ecosystem Approach in WFD implementation are identified.
- The Ecosystem Approach can contribute to more holistic water resources management.

ARTICLE INFO

ABSTRACT

The Ecosystem Approach provides a framework for building an infrastructure in decision making to ensure that society can maintain a healthy and resilient natural environment now and for future generations. Although not explicitly mentioned in the Water Framework Directive, the Ecosystem Approach appears to be a promising concept to help its implementation, on the basis that there is a connection between the aims and objectives of the Directive (including good ecological status) and the provision of ecosystem services. In this paper, an interdisciplinary linkage between the Ecosystem Approach and the Water Framework Directive has been investigated and a framework is proposed. The links to implementation of the Ecosystem Approach using the identification of ecosystem services and water management objectives, individual river basin management plans objectives, are qualitatively assessed as to how strong their link is with individual ecosystem services. The benefits of using the approach to provide a preliminary assessment of how it could support future implementation of the Directive have been identified and discussed. Findings also demonstrate its potential to encourage more systematic and systemic thinking. It can provide a consistent framework for identifying, basing, and evaluating alternative water management scenarios and options in decision making. Allowing for a broad consideration of the benefits, costs and tradeoffs that occur in each case, this approach can further improve the economic case for certain measures, and can also help restore the link in focus from strict legislative compliance towards a more holistic interpretation that can deliver the wider aims and objectives of the Directive.

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1. Introduction

The Water Framework Directive (WFD) (2000/60/EC) introduced a legal framework to protect and restore the water environment across Europe and ensure its long-term, sustainable use. It establishes water management based on river basins, the natural geographical and hydrological unit for fresh water, and sets specific deadlines for Member States to protect aquatic ecosystems. The WFD is the most substantial piece of water legislation ever produced by the European Commission, and is the major driver for achieving sustainable management of water in the UK (Collins et al., 2012). It requires Member States to protect further deterioration of water resources and to protect and enhance the status of water bodies through programmes of measures. Under article 4(1) of the WFD, Member States are required to improve the overall status of water bodies, in order for both the biological and 'chemical' status of surface water bodies to be at least good, with 'good' encompassing 'quality' and 'quantity' for groundwater bodies, all by 2015 (European Parliament and Council, 2000). The goal of WFD implementation is the sustainable management of water resources by taking due account of environmental, economic and social considerations. In doing so, and following the steps of the Dublin



Outreach

- Website receiving 1,000 unique visitors per month.
- Monthly WSKEP e-newsletter sent to nearly 4,000 contacts - has a 15% click through rate (industry standard is ~7%).
- Twitter used to communicate events and news items posted on the programme website. The programme now has 975 followers



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WSKEP Website

Details of all the activities undertaken by the Programme are available at –

www.wskep.net

The screenshot shows the WSKEP website homepage. At the top is a navigation menu with links: Home, About Us, Events, Research & Innovation, News, Networking, Documents, Contact Us. Below the menu is the WSKEP logo and a quote: "Managing water is essential if the world is to achieve sustainable development. This challenge is even more pressing as the world confronts the triple threats of climate change, rising food and energy costs and the global economic crisis." attributed to Ban Ki-Moon, Secretary-General, UN. A central grid of icons represents various sectors: DROUGHT, ENERGY, FLOOD, FOOD, HYDRO, QUALITY, SUPPLY, TOURISM, URBAN. Below this are three main content boxes: "Welcome to WSKEP" with a brief description of the programme; "Latest News" featuring a "Biodiversity and Ecosystem Service Sustainability (BESS): Knowledge Exchange Call" from the Natural Environment Research Council; and a "Calendar of Events" for November 12, 2013, listing the launch of the Flood and Coastal Erosion Risk Management plan and training in Good Practice Stakeholder Participation. The footer includes the NERC logo and social media icons.

This screenshot shows a different section of the WSKEP website. It features the same navigation menu at the top. Below the menu is a row of icons for various water-related topics. The main content area is divided into two columns. The left column has a "Latest News" section with a headline "NERC/Defra Joint Water Evidence Group Evidence Review fellowship" and a "Read More" link. Below this is a "Ground information for the house-building industry" section with a "Read More" link and social media icons. The right column also has a "Latest News" section with a headline "NERC/Defra Joint Water Evidence Group Evidence Review fellowship" and a "Read More" link. Below this is a "Calendar of Events" for September 12, 2013, listing an international conference on global sensor development and ground information for the house-building industry. The footer includes the NERC International Opportunities Fund logo.



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WaterR2B

www.waterr2b.net



UK Water Research Directory

www.ukwaterresearch.net

UKWaterResearch

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Welcome to the UKWaterResearch Directory

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Directory currently holds records of **906 researchers**.

The UKWaterResearch Directory is an output of the NERC-funded [Water Security Knowledge Exchange Programme](#).



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The UKWaterResearch Directory is a comprehensive searchable listing of individuals active in water research. It provides summaries of expertise and full contact details that allow you to make contact in one click.

It is designed to facilitate knowledge exchange and networking between UK research providers and research users.

If you are active in water research and have experience of leading projects, then we encourage you to include your details within the directory.

If you know of somebody who should be included, please forward this link to them, or click on "Share" at the foot of this page.

Just added - university research networks - [click here](#).

Just added - hydrological research facilities - [click here](#).

You can keep up to date with additions and updates by subscribing to our mailing list. You will receive no more than than one email per month.

Join our mailing list:

If you are searching for research and observation activities, programmes and data sources, visit envirobase.net.



Water Data Portal

- Media-rich online database delivering a comprehensive catalogue of water-related national datasets
- Provide direct links to the data-holding site
- Contact details of one or more custodians of the data



Thank you

twitter  @wskep

www.wskep.net

Kay Heuser
WSKEP Programme Coordinator
kaus@ceh.ac.uk