FWR NEWSLETTER
. . . from the Foundation for Water Research
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John Pinder
Independent catchment and natural resource management consultant.

LAKE PROTECTION AND THE WFD

FROM THE REGULATORY perspective, lakes have always been the Cinderella of fresh-water environmental management, but with the advent of the Water Framework Directive (WFD) all that is about to change. For the first time standards for lakes will exist across Europe with the legal framework behind them to ensure protection and improvement happens.

WFD - A NEW DAWN FOR LAKES

The main regulatory challenge, even for high quality lakes, is that they are variable in size, shape, retention time and a whole range of other parameters associated with their geology and geography. So they were always more difficult to compare than say standard rivers or to assess as 'natural' at any one time. Nutrients, and in particular phosphorus, have rarely been adequately controlled for discharges to lake catchments.

An example, and only an example, was Windermere in Cumbria which back in the 1970's enjoyed inlet and outlet rivers classed as 'high quality'. The assumption at that time was made that the lake itself was also high quality. Reality was very different with algal blooms increasing in frequency, duration and intensity, bottom waters becoming progressively deoxygenated during the late summer with some blooms of cyanobacteria creating problems with legitimate lake usage and access. Fortunately the Water Company took appropriate action at the time to install phosphorus removal at the major wastewater treatment plants and a rapid, if not huge, improvement was seen. (Reduced phosphorus led to less algae which resulted in less aerobic digestion on the lake bed when algae died. A rather simplified explanation but sufficient to demonstrate the linkages and ecological response to anthropogenic inputs.)

At a national level the historically low profile of lakes limited the amount of monitoring and surveillance data available for those now creating the WFD appraisal system for lakes; not only fit for UK purposes but also for providing consistency across Europe (Inter-calibration).

Overall there was little data to go on, little experience to draw expert opinion from and a realisation that practically, there had to be a limit on the number of lakes included. Across England, Scotland and Wales some 13,683 lakes over 1 ha in area were identified, of which only 477 were 'larger' lakes, over 50 ha. (Ireland has approx. that number again.) After consideration of all the variants it was decided that some 750 lakes were relevant to WFD regulation and of those

Welcome to the Winter Issue of the FWR Newsletter

During 2011 there have been important developments for water, culminating in the recently published Water White Paper. The Catchment Approach to river management, launched in March by the Minister Richard Benyon, has been making encouraging progress.

This issue is focussing on the management of lakes and we are delighted that John Pinder has agreed to write the key article for this issue. John, who looked for many years after water quality in the Lake District as a former Environment Agency manager, is now Secretary of the UK and Ireland Lakes Network (UKILN) and an Advisory Board member to the Global Nature Fund.

In addition, reports from the latest Defra Water Stakeholders Forum and from the CIWEM conference on Catchment scale delivery are on page 5.

News from the FWR Wastewater and Water Supply sections are on pages 6 and 7.

On the last page, Caryll Stephen, FWR Chief Executive, reports on our current activities and the Library section informs about new publications available from the FWR bookshop.

For more information we invite you to have a look at our FWR website *(www.euwfd.com)* or *(www.fwr.org)*. You can also contact us by email or telephone (see details on the last page).

The Editor

THIS ISSUE

some 445 would be monitored regularly.

The appraisal system now devised for reporting purposes recognises lakes of three depths, from shallow to deep and each with a range of three natural hardness, creating a matrix of nine lake types (ten including 'marl' lakes). The task of the calibration team, led by the Environment Agency in the UK, has been to not only allocate our major lakes to these types, but more importantly, to assess where they sit in the WFD classification system – high, good, moderate, poor, bad.

LAKES, SLOW TO IMPACT - SLOW TO RECOVER

Given the relative neglect lakes have endured in the past, it is perhaps not surprising that many of our lakes are classed as moderate or worse and therefore require action to bring their quality up to good or high status.

For the Environment Agency, responsible for achieving their target quality and for other organisations identified in helping deliver this, the challenge is made more difficult for two reasons: -Firstly, lakes have evolved to support relatively stable ecosystems with little natural variation or ability to cope with shocks in water quality, unlike river systems which have wide variations even under 'normal' conditions.

The progressive shift in water quality that has occurred over the last 80 years or so through changing land use and climate change impacts have been difficult for lakes to accommodate. Secondly lakes in general, and especially deep lakes, tend to respond only slowly, it taking several to many years for lakes to naturally improve once the necessary actions have taken place across their catchments (watersheds).

This is because lake sediments often absorb elements which only slowly release back to the water, even when the inputs have stopped. The approach of the WFD is helpful here. It does not require an immediate return on invested finance and effort in infrastructure or practice improvements. Rather it recognises that achieving long term goals will take time. The important thing is to demonstrate the necessary actions are planned and being actioned now.

The UK's approach of creating River Basin Management Plans identifying problems in lakes, citing the necessary actions and then implementing them, bodes well for lakes receiving their due attention, recognising that the agencies plus partners are taking steps, not just talking about it. Ten pilot catchments, chosen by DEFRA, (with a further 15 being considered) are engaged in both planning and implementation until Dec. 2012. These pilots will provide valuable insights on lake protection where still waters are in those catchments. However it should be noted that none of the chosen catchments are strongly lentic (still waters) and staff experience in lake management/restoration may not therefore be fully developed by the end of the trial.

LAKE PROTECTION, DIFFUSE POLLUTION – a landscape-scale task

One of the most important challenges of the last 5 years has been the growing realisation that diffuse pollution in whole river systems (including lakes) is probably the most important issue to be resolved. Many of the point sources of contamination, such as phosphorus loading from sewage treatment works, have been recognised, put into water company investment plans and now largely implemented. Prior modelling provided convincing justification for this action and also provided a good projection of the resultant effect. However the complexity of diffuse pollution and sediments in lakes always makes it difficult to accurately quantify immediate effects and progressive benefits over time. These diffuse sources are much more difficult to model accurately. The recent government supported Catchment Sensitive Farming initiative, whilst reported by the Environment Agency as successful, probably underplays the long term significance of this excellent programme.

Although they quote that 64% of farms have taken up advice and that more than 50% of the recommendations were implemented, this takes no account of its long term potential value. Those farmers taking up catchment sensitive farming advice, including nutrient budgeting and manure/slurry management, will benefit directly by seeing reduced fertiliser costs for the same productivity. As fertiliser costs increase generally and the phosphorus component of fertiliser rises even more quickly (world resource shortage), the adoption of tailoring

UK & Ireland
United Kingdom and Ireland Lakes Network

IN 2009 THE ENVIRONMENT AGENCY AND LAKE DISTRICT NATIONAL PARK AUTHORITY held an international conference on sustainable lakes **'Lakes for Living, Lakes for Life'** *(http://www.ukandirelandlakes.org/default.asp?textpage=Inaugural_Conference&maincat=down)* and sought as a key objective to start the process of reconciling the language differences that existed between the economic, environmental and community/society. One of the outcomes of the conference was that across the UK and Ireland, there existed a significant amount of experience and expertise on lake management but little opportunity had existed to promote the sharing of ideas. With the advent of the WFD it would be imperative that our lakes classified as 'moderate' or worse would need to have action plans put together quickly.

It was further felt that this 'sharing' should not just be limited to the technical understanding of chemistry or biodiversity issues, but also cover other catchment use, fishing, boating, and other societal values. The starting point would be a shared website, now set up, and the provision of an annual conference at which local action groups, politicians and other local 'movers & shakers' would attend and contribute.
The first conference of the UKIL network was in the Norfolk Broads in 2010 and this year it was held in Perth, Scotland. Next year the intention is to go to Lough Neagh in Northern Ireland to explore the partnership approach which they have adopted to protect this very important asset.

The UKIL network is not limited or geared to any specific group of organisations. It does have government based groups but equally is open to NGOs, Civil Society Organisations (CSOs), Water Company Catchment Groups and others. The important criteria for membership is the desire to share experience and to learn from each other what initiatives can be put into place to improve our lakes and secondly to create a nucleus of practitioners that can collectively elevate the profile that lakes have lacked for so long.

Its close allegiance and terms of reference to the **Global Nature Fund's Living Lakes Network**, *(http://www.globalnature.org)*, means that the group is part of a family of worldwide groups with complementary experiences but who all have the common desire to protect our lakes.
For more information visit the UKIL website: *(http://www.ukandirelandlakes.org).*

phosphorus application to crop and soil needs will become increasingly more attractive to farm finances.

Those farmers who have already seen the business value of the catchment sensitive farming approach will be well positioned to act as sector ambassadors to the whole of the farming community and be an important vehicle in creating this shift in normal practice if the initiative is marketed well. In parallel with the WFD implementation is news that European CAP reforms will strive to strengthen competitiveness, create sustainable agriculture, support continued presence of farming in regions and support initiatives for farmers to be custodians of the countryside.

For lakes, it will be interesting to see if CAP reform incentives are lake friendly by recognising lakes for their differing range of ecosystem services provided or if farm productivity becomes the priority in every location.

ECOSYSTEM SERVICES

Of course farming differs in nature around the country and therefore across lake catchments. The level of importance farming has in lake catchments will therefore also differ. Recent work by Natural England on developing the Ecosystem Services notion has brought focus on the wide range of activities on rural landscapes, their values and impacts on land use such as the proportions of rural land where forestry is undertaken.

The socio-economic values of optimal land use may well determine not only how lakes are protected in the future but how farmers/foresters manage landscapes and to what degree they become stewards of the landscape as part of their business portfolio.

The introduction here of the term landscape, reflects recent thinking about lake catchment management around the world. For some time we have worked to the belief that a 'lake is as good as the catchment that drains to it'. But the development of the landscape-scale concept recognises something additional. Landscapes are broader, taking on not only the hydrological watershed, geology, geography and climate etc. but also the fact that people live there, with additional values such as quality of life, history, traditions, culture and the 'sense of place'. And it is people/communities that will be at the heart of future lake protection.

The inclusion of communities in delivery of good or high quality lakes, rather than it being imposed on them, is an ethos strongly promoted by the WFD and enshrined in the River Basin Management Plans and their Pilot Projects process. It is also strongly aligned to government policy of promoting Localism and 'Big Society'. There are however difficulties in delivering lake-friendly practices on the ground. One is the transfer of enthusiasm from policy makers to local people. There has frequently been a shortfall in Authorities' 'Advisory Group' and community representatives motivating those communities they are supposed to represent in engaging in actions on the river banks and in the catchments. Another shortfall has been the shortage of Leaders with both technical and management skills needed to translate policy ideas into catchment protection measures and maintain enthusiasm of participants over time.

Education is the foundation of future lake catchment stewardship.

Children in the National Trust sculpture on the shores of Derwent Water where Canon Rawnsley first visioned the need to keep the lake and its surroundings in trust for future generations. This ultimately led to the formation of the National Trust who now play such an important part in the partnership approach to protecting Derwent Water and other lakes in the region.

FUTURE PROTECTION. COMMUNITY LEAD, AGENCIES SUPPORTING

Increasingly though, there are signs that these too are being addressed. In Cumbria, partnerships led by the Environment Agency and supported through the Heritage Lottery's Landscape Partnership Scheme are creating projects and producing home- grown skilled staff and local, committed, long term leaders to take direct action on lake-landscape protection.

The Defra sponsored RBMP Projects are engaging with organisations like Association of Rivers Trusts, BTCV (British Trust for Conservation Volunteers), and National Trust, which have history of grass roots involvement, action and an ability to maintain motivation. In the longer term the Civil Society Organisations (CSOs) and Non-Governmental Organisations (NGOs) are already identified as key delivery organisations and from results delivered across Europe and beyond, that assumption is well grounded. Perhaps what has been lacking across both government and non-government organisations to date surrounds the British malaise of 'accepting good results and moving on to the next task'. There is a need to celebrate success, recognise individuals and enjoy the improvements which will serve our lakes into the future if we are all to remain motivated.

Community involvement has perhaps an even more important role than just providing the human resource to protect and restore lakes at catchment level and compliance with WFD protocol. The Water Framework Directive has sets of criteria that establish quality scored by biological and chemical parameters and closely associated are the objectives of species habitats, water supply etc. But lakes mean so much more to the community. Historically, they were the preferred location for our Neolithic ancestors to live as evidenced by the crannogs of Scotland and Ireland.

Lakes are no less important to their local inhabitants now; providing defence against excessive flooding, transport links, food, water supply, recreation etc. These values go well beyond the requirements of the WFD and government-only drive. When we look at less

Further Reading and Information Resources

THE LAKES TOUR - SURVEY OF MAJOR LAKES IN THE ENGLISH LAKE DISTRICT - The Lakes Tour is a long-term survey of the water quality and ecology of the 20 major lakes in the English Lake District. The report on the latest survey, carried out in 2010, was released this month and includes an analysis of changes in the lakes over the last three decades. The Tour was first carried out in 1984, and has been repeated in 1991, 1995, 2000, 2005 and 2010. The work is carried out by scientists from the Centre for Ecology & Hydrology supported by staff from the Environment Agency, with funding from the Environment Agency and the Lake District National Park Authority.

(http://www.ceh.ac.uk/sci_programmes/water/LakesTour2010.html).

LAKES RESTORATION AND MANAGEMENTS PROGRAMMES:

- Loweswater Care Project *(http://melbreakcommunities.wordpress.com/activities/loweswater-care-project/).*
- Bassenthwaite Lake Restoration Programme *(http://www.bassenthwaite-lake.co.uk).*
- Windermere Catchment Restoration Programme *(http://www.windermere-lakes.co.uk).*
- Bassenthwaite Reflections Programme *(http://www.bassenthwaite-reflections.co.uk).*

Defra's RBDs classification and threshold values Directions are available for download on the Defra's Water Framework Directive website: *(http://www.defra.gov.uk/environment/quality/water/legislation/water-framework-directive/).*

'METHOD STATEMENT FOR THE CLASSIFICATION OF SURFACE WATER BODIES. - MONITORING STRATEGY.' Environment Agency, updated October 2011. *(http://www.environment-agency.gov.uk/research/planning/33260.aspx).*

'A GUIDE TO USING WOODLANDS FOR SEDIMENT CONTROL' (Bassenthwaite lake study). T.R,Nisbet, H.G.Orr and S. Broadmeadow, Forestry Commission, 2004, *(http://www.forestry.gov.uk/website/pdf.nsf/pdf/englandwoodlandforsedimentcontroljune04.pdf/$FILE/englandwoodlandforsedimentcontroljune04.pdf).*

'WOODLAND FOR WATER: WOODLAND MEASURES FOR MEETING WATER FRAMEWORK DIRECTIVE OBJECTIVES'
Forest Research, October 2011. Available for download from the Forest Research website: *(http://www.forestry.gov.uk/fr/woodlandforwater).*

developed parts of the world, lakes are very much valued for their cultural and spiritual significance which sit comfortably alongside those criteria we are more familiar with. But in all these cases, it is the communities that take the lead.

FUTURE CHALLENGE AND WORLD-WIDE SHARING

If we set aside groundwater which is more difficult to exploit, of the fresh water on the earth, some 90% at any one time is in lakes. With the world population having just topped the 7 billion mark, pressures to exploit easily and cheaply won water will only increase and lakes will surely be seen as an attractive option. World-wide, there is still insufficient real protection afforded to lakes and most are reducing in quality. The impetus offered by the WFD here in Europe offers the perfect opportunity to not only put in place a sustainable restoration and protection of lakes here, in the UK, across Europe, but also to act as a source of experience and developed expertise to be shared across the globe.

John Pinder email: *johnpinder@aol.com*

14TH WORLD LAKES CONFERENCE

Austin, Texas, 30 Oct – 4 Nov 2011

(http://www.wlc14.org)

ORGANISED JOINTLY this year by the International Lakes Environment Committee Foundation (ILEC) and the River Systems Institute, Texas State University, the conference is held every 2 years to provide a focus for scientific, management and governance understanding of natural and artificial lakes.

This year's theme was on 'linkages', both physical, such as links to groundwater, estuaries and river systems, but also the links between lakes, communities and their governance.*

One of the key outcomes of the conference was the launch by ILEC of the development of an 'Integrated Lake Basin Management' (ILBM), which develops the catchment management approach we are familiar with, into a process with much greater integration. Its basis is that ILBM is a framework; not a prescriptive recipe for management. It has 6 functional pillars that support it. These are: **Institutions, Participation, Policies, Technology, Information and Finance.**

Further information can be acquired from ILEC based at the Research Centre for Sustainability and Environment, Shiga University, Japan (RCSE-SU) *(http://www.ilec.or.jp)*

** John Pinder, the only UK delegate, was invited to give a paper on "Lakes, Landscapes and Locals", drawing on experience in Community engagement in lake catchment protection.*

FWR Water Framework Directive
the information centre for water, wastewater and related environmental issues

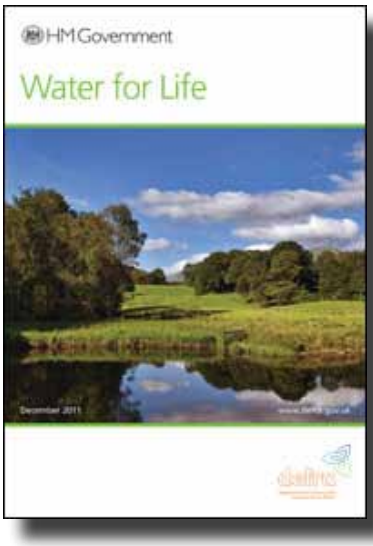
Water for Life

Water White Paper published

For further information on what the White Paper includes and to download the document , please refer to Defra's website: *(http://www.defra.gov.uk/environment/quality/water/legislation/whitepaper/)*

Full text of the press release is available on the Defra website: *(http://www.defra.gov.uk/news/2011/12/08/spelman-water-reform-needed-to-tackle-threat-of-future-droughts/)*

ON 8 DECEMBER 2011 the Environment Secretary, Caroline Spelman, launched the publication of Water for Life, a new approach to water management.



According to Defra "Water for Life describes a vision for future water management in which the water sector is resilient, in which water companies are more efficient and customer focussed, and in which water is valued as the precious and finite resource it is. It explains that we all have a part to play in the realisation of this vision."

The Environment Agency issued alongside this White Paper two reports to provide evidence for proposals set out in the White Paper. *THE CASE FOR CHANGE: CURRENT AND FUTURE WATER AVAILABILITY* includes data on how much water is available now and in the future, taking into account the possible effects of climate change and population growth.

THE CASE FOR CHANGE: REFORMING WATER ABSTRACTION MANAGEMENT IN ENGLAND, produced jointly with Ofwat, includes an assessment of the current regulatory regime and whether it is fit for purpose to face these future pressures.

(http://www.environment-agency.gov.uk/research/planning/135501.aspx)

Defra England Water Stakeholder Forum

18 November 2011, London

The Forum remains a popular platform for exchange of information between Defra, the Environment Agency and a wide range of water stakeholders.

As at the last meeting, the Keynote Speech was presented by Richard Benyon, Parliamentary Under-Secretary for Natural Environment and Fisheries. Presentations included SuDS, CAP reform, non-agricultural diffuse pollution, WFD funding and EU update. The most interesting presentation was delivered by Tim Pickering, EA, describing experiences in co-ordinating The Ecclesbourne Pilot, one of the 10 new pilot catchments hosted by the Agency.

Documents from the meeting, including the Minister's speech, Defra and EA updates and copies of the presentations are available for download at our website:

(http://www.euwfd.com/html/england_and_the_wfd.html)

Minister Richard Benyon is answering questions from the participants.

From left: **Roland Moore**, *Forum co-ordinator,* **Chris Ryder,** *Head of Water Quality, Defra*, the Minister and **Rory Wallace**, *Head WFD Team,Defra.*

Dave Baxter *(Head of Catchment Management and WFD)* is updating on the work of the Environment Agency

Tim Pickering, EA, *Ecclesbourne Pilot Catchment Coordinator*

CATCHMENT DELIVERY

Towards more Effective Environmental and Societal Benefits – a CIWEM-CMS Conference

23 November 2011, SOAS London

THIS EXCELLENT AND POPULAR MEETING reflected the initial enthusiasm and interest shown by a wide range of sectors in the Catchment Based Approach launched by the Minister Richard Benyon last March. At this meeting the Minister said that, in response to Defra's invitation, they received 70 expressions of interest to host pilot catchments. Of these, 15 have been selected to be closely supported alongside the EA's 10 catchments during the Pilot Phase.

Among others, there were interesting presentations from Natural England on Catchment Sensitive Farming Programme, by Wessex Water on lessons from Water Company Catchment schemes and from the West Country Rivers Trust, which has been delivering catchment-scale restoration for many years.

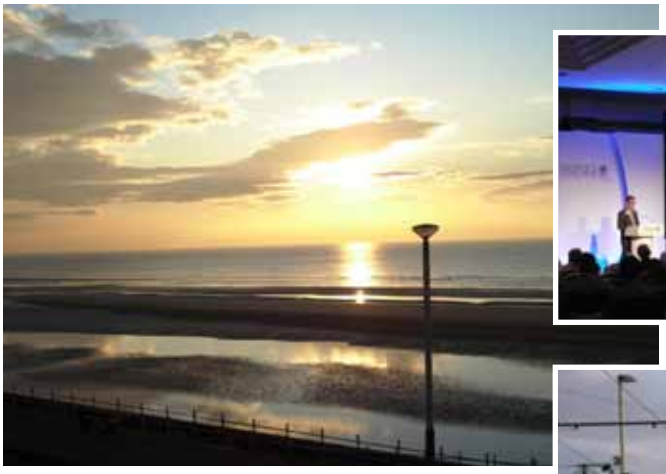
The Power Point presentations and delegate notes are available on the conference organiser's website:

(http://www.coastms.co.uk/conferences/450/show)

NEW CATCHMENT MANAGEMENT WEBSITES:

- **Environment Agency Catchment Based Approach website**
  Information on the approach, on catchment pilots, guidance to organisations bidding to host pilot catchments, details of contacts, etc: *(http://www.environment-agency.gov.uk/research/planning/131506.aspx)*
- **Demonstration Test Catchments - Research Programme website**
  Exchange of knowledge, including information on the project, news, newsletters and events relating to the £8.5M programme of research. The Demonstration Test Catchment (DTC) project is currently working in three river catchments across England, the Eden in Cumbria, the Wensum in Norfolk and the Avon in Hampshire. The programme is a joint Defra, Environment Agency and Welsh Assembly initiative to develop catchment-scale cost-effective approaches to reduce the impacts of diffuse pollution from agriculture on ecology and society while maintaining the profitability of farm business: *(http://www.demonstratingcatchmentmanagement.net/).*

FWR Wastewater
the information centre for water, wastewater and related environmental issues



WaPUG Conference

The Continuing Changes in Urban Drainage Management

Blackpool, 9 - 11 November 2011

THIS YEAR WAPUG HELD THEIR AUTUMN MEETING AGAIN IN BLACKPOOL. WaPUG, now CIWEM's Urban Drainage Group, has a long history of promoting best practice in the field of urban drainage. This is the 27th year of WaPUG's existence and the second autumn conference since they merged with CIWEM. More than 140 delegates registered for the meeting and over the three days 18 papers were presented on a wide range of topics relating to urban drainage together with several workshops. A high point of the event was the conference dinner when a well patronised raffle was held in support of the Donna's Dream House Charity a locally based trust providing free holiday experiences for children and teenagers with life-threatening illnesses.

For more details of the Programme and presentations visit the CIWEM website: *(http://www.ciwem.co.uk/knowledge-networks/groups/wapug/events/past-events--presentations.aspx)*

WSW

Water, Sewerage & Waste Exhibitions

Birmingham
27 October 2011

THE LAST OF THE FOUR WSW exhibitions of 2011 *(http://www.pse.co.uk/)* that FWR have supported took place in Birmingham, next to the famous Belfry golf course. These exhibitions have been running for a number of years and are a successful way for organisations to promote their products and services to a large number of people working directly in the water, sewerage and waste industries. This wide-ranging audience is ideal to promote FWR not only to manufacturers and water professionals but also those not directly involved in water management such as surveyors, architects, environmental consultants, property managers, and local authority personnel.

REPLACING WATERWATCH SCOTLAND

Gráinne Byrne, SPSO, writes:

UNLIKE IN ENGLAND AND WALES where water is supplied by a number of private water companies, in Scotland the main supplier, Scottish Water, is a publicly owned company. It answers to the Scottish Government which sets key objectives on quality and customer service. It is also regulated by the Water Industry Commission for Scotland which monitors its performance against these objectives, promotes the interests of customers and facilitates competition in the non-domestic market. Quality levels are monitored by the Drinking Water Quality Regulator. When things go wrong with the domestic water supply in Scotland members of the public have the right to complain to Scottish Water. Their complaints procedure enables their customers to report problems and file complaints. If complaints remain unresolved after this process has been completed, the complainant can take their concern to a final stage review.

Until August 15 2011, the final stage for complaints about water in Scotland was Waterwatch Scotland. Under the Public Services Reform (Scotland) Act 2010, Waterwatch was dissolved and responsibility for unresolved water and sewerage complaints transferred to the Scottish Public Services Ombudsman (SPSO).

The customer representation function of Waterwatch moved to Consumer Focus Scotland.

The SPSO is the final stage for most public service providers in Scotland. It looks at complaints about councils, health boards, housing associations, universities and colleges, prisons, the Scottish Government and most Scottish public authorities.

Compared with other sectors looked at by SPSO, the water caseload is small. Last year Waterwatch reported receiving 914 contacts. Of these, 11% were complaints that they considered in detail. Reform legislation brought Scottish Water under the SPSO's jurisdiction and it also allowed non-domestic licensed providers to opt into the SPSO scheme and become listed authorities.

Providers that have opted into the Ombudsman's scheme, so far, are Business Stream, Aimera and Wessex Water.

For more information about the work of SPSO, go to: *(http://www.spso.org.uk)*

Jim Martin
Scottish Public Services Ombudsman

FWR Water Supply
the information centre for water, wastewater and related environmental issues

Our Chinese visitors from the Hunan Water Resources Department of the Hunan Province with Neil Tytler, FWR, by the River Thames in Marlow. From left: the interpreter Hannah, Mr Guo Bingkui, Director, Financial Division, Mr Ge Guohua, Division Chief, Neil Tytler, Ms Chen Menghui, Vice Director, leader of the delegation, Ms Ou Xiaoyan, Vice Division Chief, Mr Zhu Jianrong, Division Chief and Mr Wang Zhen, Vice Division Chief.

Mr Wang Zhen, Mr Zhu Jianrong, Mr Guo Bingkui and Ms Ou Xiaoyan listen to Neil Tytler's presentation

Delegation from Hunan Province visits FWR

HUNAN is an important agricultural province of more than 69 million inhabitants with rapidly developing infrastructure and industry. Hunan means a place south of Dongting Lake, which is a large flood basin of the Yangtze River ('the kidney of the Yangtze River').

Jiangjiang River is the largest river in this region, one of the largest tributaries of the Yangtze River, flowing into the Dongting Lake. During our short meeting we discussed common problems in balancing water demands, water quality and ecology and approaches to integrated water management.

Ivana Wilson outlined how water resources are managed in the UK and Europe and Neil Tyler then discussed in more detail key features of the Water Framework Directive and how it is being implemented in the UK.

More information on responsibilities of the Water Resources Department of Hunan Province is available on the Hunan Government website:

(http://www.enghunan.gov.cn/Goverment/Structure/AgencyDirectory/depart/200809/t20080914_288296.htm)

Ivana Wilson

Ms Chen Menghui, leader of the delegation and Caryll Stephen, FWR Chief Executive exchanging presents.

Visit from:
Bureau of Waterworks, Tokyo Metropolitan Government, Japan

MR TAKAHIRO MATSUO from the Purification Division, Bureau of Waterworks, Tokyo Metropolitan Government is researching water resource management based on Integrated Water Resource Management and came to FWR to discuss WFD and River Basin Management Plans.

The Tokyo Waterworks one of the world's top waterworks, supplies water to 13 million people. Most of water resources for Tokyo are from rivers, only 0.2% come from groundwater. The Bureau puts much effort in implementing leakage prevention measures for their some 26 thousand km of distribution pipes. As a result, the leakage rate in 2009 was improved to 3.0%.

Detailed information (in English) on water supply in Tokyo are available on the Bureau of Waterworks website:

(http://www.waterprofessionals.metro.tokyo.jp)

Mr Takahiro Matsuo discussing River Basin Management Plans with Neil Tytler and Ivana Wilson at FWR.

5th European Water & Wastewater Management Conference & Exhibition

The conference took place in The Barbican Centre, London, on 26 – 27 September 2011. FWR also exhibited at this conference. More details on the conference are available: *(http://www.ewwmconference.com/)*

FWR Wastewater Forum

The last meeting took place at CIWEM in London in November. Report on the meeting and the presentations will be available at the Wastewater Section of our website early next year.

Foundation for Water Research
the information centre for water, wastewater and related environmental issues

An update on the activities of the FWR

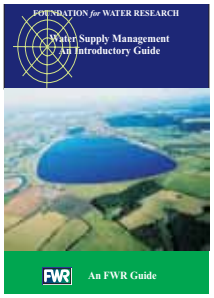
Caryll Stephen
Chief Executive of the Foundation for Water Research

As promised in our previous Newsletter (no 3) this issue is focussing on Lake Protection and the Water Framework Directive and we are very grateful to John Pinder for writing this lead article. Again, as you will see, FWR has been out and about at a number of exhibitions/ conferences and entertained a further delegation from China, this time from the Hunan Province, and received a visit from the Water Resource Management Department at Tokyo Metropolitan Government in Japan. In addition three further FWR reports have been produced/updated. We are currently planning our schedule of publications, exhibitions/visits and our involvement with the Catchment Approach for 2012 which has all the indications of being another very busy year. Meantime, I should like to say a big 'thank-you' to all those who have contributed to our Newsletters during the year and to wish them and all our readers a:

VERY HAPPY CHRISTMAS AND A GOOD NEW YEAR.

FWR Library
the information centre for water, wastewater and related environmental issues

New FWR publications

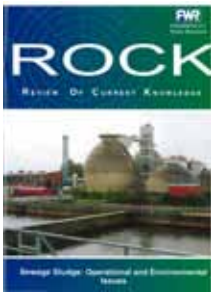


New FWR Guide

FWR/G0009, October 2011

Public Water Supply Management - An Introductory Guide

The guide explores the various sources of water for supply, indicating the water quality issues associated with each; outlines the quality standards that must be achieved and maintained in public water supplies; describes the most commonly used treatment processes and the arrangements for distributing water to homes and places of work.



Updated FWR ROCK

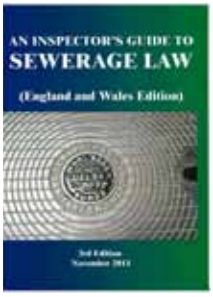
FWR/R0001, October 2011

Sewage sludge: Operational and Environmental Issues

Sewage sludge is an inevitable consequence of sewage treatment. The quantity produced has increased because of regulations requiring additional standards of treatment and because of increasing population. The various ways in which it can be treated, used or disposed of are discussed as well as the measures that can be taken to ensure no adverse environmental or health effects.

FWR publications in preparation:

Revised FWR ROCK on **Cryptosporidium in Water Supplies** will be avaiable early next year. In the first half od 2012 we are also planning to publish two revised FWR Guides: ***A Household Guide to Water Supply and Sewerage*** and ***Drinking Water Standards and Guidelines.***



An Inspector's Guide to Sewerage Law (England and Wales)

FWR/03R, Updated November 2011 (A6 Booklet)

The popular pocket-size booklet is being updated to take into account the recent changes in private sewers ownership. It is intended to assist water company staff and other practitioners in England and Wales to understand the complex subject of sewerage law and to help them in discussions with customers and clients. It describes the law as it relates to the ownership and maintenance responsibility for drains and sewers, and to the duties and powers of sewerage undertakers.

The Inspector's Guide is available to purchase for £12.50 (+p&p) from FWR (for details see below).

The reports are posted on our website and may be viewed via our FWR website: *(http://www.fwr.org)*. Hard copies of the FWR ROCKs and FWR Guides are obtainable from the Foundation, price £15.00, less 20% for FWR Members.

SNIFFER Reports:

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SNIFFER manages and publishes research addressing knowledge gaps relating to environmental issues.

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The following new report is now available from FWR:

- **ER07B** - Demonstration of a Methodology to Summarise and Track Air Pollution Effects on Ecosystems at Regional Scales (£25.00)

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Foundation for Water Research
Allen House, The Listons, Liston Road,
Marlow, Bucks SL7 1FD.
T : +44 (0) 1628 891589
F : +44 (0) 1628 472711
E : office@fwr.org.uk
W : www.fwr.org

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