

# Twitter – come join the conversation

Do you tweet or does the very thought strike fear into the heart? Did you know that the FBA does via [@freshwaterbio](#)? Perhaps you remain unconvinced by the whole thing? Over the past year an increasing number of your freshwater colleagues in the UK and internationally have taken to the Twittersphere as part of their professional roles or in a personal capacity. So, Catherine Duigan ([@Kate\\_Llyn](#)), with the help of Anson Mackay ([@AnsonMackay](#)), Jonathan Grey ([@drjongrey](#)), Martin Muir ([@mcamuir](#)) and others, decided to tweet colleagues asking why and how they used this form of social media and here summarises their responses.

Primarily Twitter is being used as a source of immediate news and general communication. Staff within research institutes and universities use it to advertise papers which they have just produced, PhD positions, jobs, meetings and workshops. These tweets may be emanating from individual labs and directed at students to promote new scientific ideas and 'hot' papers, but groups and departments and whole organisations are slowly coming around. In an ever increasingly 'metrics' dominated academia, metrics have already been developed to report references to papers on Twitter and these are fast becoming part of research impact evaluations. It is also possible to have links to websites, like Slideshare, which have basic monitoring facilities, such as number of views or downloads.

Once you build up a significant number of followers you will start to feel Twitter's high density news feed, although it is possible to use applications such as Hootsuite or TweetDeck which can filter tweets of most interest to you. This can seem overwhelming at first but it is easy to manage and remains a valuable constant stream of relevant news, easily accessed, and often with links to further information. Some regard it as a filter to discover the topical papers to read, while others broaden their horizons, picking up snippets of information easily from fields previously on their periphery. You will find information you might otherwise have missed or only found out about much later. A further way to control the sheer volume of tweets is by setting up or subscribing to lists which have restricted and specialist memberships. Examples include:

- Enviro scientists by QAECO
- Wildlife/Nature by Jane Adams
- Environment by Anson Mackay
- Freshwater by Jeremy Halls
- Welsh Enviro-Network by Catherine Duigan
- RealWomenInScience by the European Commission

Membership of these lists is controlled by the user and they provide specialist forums, thereby building communities and stimulating focused discussions of common interests. By retweeting or marking as a 'favourite' you can build up a handy reference

'bookmark' list for your own use later. Using Twitter can also create opportunities, including finding a job and conferences. Certain keywords can be searched for and followed, especially by prefixing that word with a hashtag '#'. For example, if you wanted to gather information on Cladocera, one can search for #cladocera. With only 140 characters to play with, some of these keywords become abbreviated so it is worth checking on variants: the term invasive species is very often reduced to #invsp.

The conference on 'Freshwater Biodiversity in the UK: status, threats and conservation concerns', hosted by University College London (UCL) Environmental Change Research Centre in September 2012 provided a very good example of the use of the medium to capture and disseminate the key messages from a meeting. During the day colleagues who could not attend were able to follow the Twitter accounts of those at the meeting and pick up on the points made in the individual presentations. The discussion session was carried out against a backdrop of conference tweets and again it helped to distil the key messages.

**Catherine Duigan** @Kate\_Llyn 21 Sep  
Reflection on #fwbiodUK: defining the relationship between #biodiversity and #ecosystemservices is a critical issue. Answer on a tweet?  
Expand Reply Delete Favorite

**Carlos Abrahams** @DrawdownZone 21 Sep  
@Kate\_Llyn #Ecosystem services might be provided adequately by few species - but biodiversity provides resilience in a changing env?  
Hide conversation Reply Retweet Favorite

**Steve Ormerod** @SteveOrmerod 21 Sep  
@Kate\_Llyn 1) small organisms have major roles; 2) biodiversity is crucial at all levels of organisation; 3) function means more than structure  
Expand

**Steve Ormerod** @SteveOrmerod 21 Sep  
@Kate\_Llyn And: while protecting #ecosystemservices is a key goal, this is an adjunct to biodiversity conservation rather than a replacement  
View conversation

Example conversation stream initiated by [@Kate\\_Llyn](#).

Twitter is also being used as a teaching aid. [@AnsonMackay](#), for example, allows students to use Twitter during lectures, either to tweet key points that they have learned to their followers or even to tweet questions, which are then read out and answered at the end of the class. In addition

courses or modules can be supported by their own accounts (e.g. [@geog3057](#)).

Having a Twitter feed is now a standard component of any large scale project and a newsfeed on the project web pages negates a requirement to manually update on a regular basis! These types of accounts tend to consist of tweets about project developments and are excellent for communicating new material to a wider community of end-users and stakeholders. For example [@DURESS\\_HQ](#) uses the medium to communicate DURESS (Diversity in Upland Rivers for Ecosystem Service Sustainability) project developments, supplemented by tweets on ecosystem services and freshwater ecology in general, in English and in Welsh. Windermere Science ([@WinSci](#)) is used by another Natural Environment Research Council ([@NERCscience](#)) funded project focused on whole lake responses to species invasion mediated by climate change.

[@CEHScienceNews](#) told us "Our scientists are using it as individuals more & more, beyond our 'corporate' use; early days still". Some researchers present a completely research orientated profile but references to more personal interests helps to cultivate the personal touch. For example Ian Winfield's ([@ianjwinfield](#)) tweets are a charming combination of Bruce Springsteen lyrics and fish research. It is undeniably interesting to have an insight into what colleagues are reading and thinking about.

Participation by the Environment Agency England and Wales ([@EnvAgency](#), [@EnvAgencyWales](#)) is well developed with national and local accounts, and a range of staff taking part. For example you can follow biodiversity developments with Alistair Driver ([@AliDriverEA](#)) but you may also be able to follow your local flood defence officer engaged in the management of an incident in your area. Alistair recently had the news scoop on the escaped beaver which had felled at least one tree near Borth in mid-Wales! [@SEPAView](#) provides news from the Scottish Environment Protection Agency, with additional news from north of the border provided by [@DrColinBean](#), Pauline Lang

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**Whole lake responses to species invasion mediated by climate change**

Lakes face multiple stresses including nutrient enrichment, climate change and invasion of non-indigenous species. This latter stress can have a major impact on biodiversity and the functioning of ecosystems worldwide and its effects are increasing as human activity enhances rates of dispersal and climate change opens new niches at higher latitudes.

Our project is funded by the Natural Environment Research Council's Ecology & Hydrology Funding Initiative and the work will be carried out by staff at the Centre for Ecology & Hydrology's Lake Ecosystem Group and the Grey Lab at Queen Mary University of London.

Two project partners, the Freshwater Biological Association who instigated the long-term monitoring and hold some of the archived samples, and Dr Chris Harrod at Queen's University Belfast, will assist with the project.



@WinSci on Twitter

- CEHScienceNews: Managing Species in a Challenging Climate - CEH's Ian Winfield among speakers at major SNH conference <http://t.co/ud87NynY> #speciesconf
- djongrey: Cracking new paper @StephenMaberly & @Phil\_B\_diatom d13C points to catchment productivity in #LakeDistrict <http://t.co/pRgT3wL> @LancsUnilec
- WinSci: @WinSci team member Stephen Thackeray highlighted in JPR discussing disruption to biocalendar of aquatic ecosystems <https://t.co/FVWVXaIf>

A Twitter newsfeed can automatically update project webpages with specific (controlled) content.

(@Dr\_LangP) and Scot Mathieson (@scot\_nature\_boy). Many staff in other regulatory and conservation agencies contribute in a personal capacity and often their tweets are an eclectic combination of local news, personal interests and organisational news. Those that are keen birders or anglers are also exchanging information on what can be seen or caught in specific locations. Of course Twitter has international reach with @The\_RRC, @RESTORErivers and @americanrivers sharing knowledge and promoting best practice on river restoration in the UK, Europe and North America, respectively.

It is noteworthy that UK Government departments and the devolved administrations are using Twitter, as are some of their former Chief Scientific Advisers (e.g. Sir John Beddington @uksciencechief) and Environment Ministers. You can also keep up to date with Anne Glover (@EU\_ScienceChief), Chief Scientific Adviser to José Manuel Barroso, President of the European Commission, and Janez Potočnik (@JanezPotocnikEU), the European Commissioner for the Environment.

Several colleagues highlighted the use and effectiveness of Twitter as part of citizen science projects. The Riverfly Partnership (@Riverflies) said Twitter was a great facility to receive and share freshwater news with a wide range of people, to promote events/campaigns, and to answer queries. Not surprisingly The Rivers Trust (@therivertrust, @RiverTrust\_NI), the umbrella body for charitable rivers trusts and river improvement groups across the UK, has a Twitter presence, but so do many of the more local river trusts, such as the Wye and Usk Foundation (@WUFoundation),

West Cumbria Rivers (@WestCumbriaRT), Thames Rivers Trust (@ThamesRvrsTrust) and The River Don (@thedontrust). Lakes are also to be found on Twitter, with Loving Our Lake (@llynpadarn) conveying information and promoting community events intended to protect the lake for the future mainly by reducing the input of nutrients, and @Wheatfen promoting all things Broads Authority.

Freshwater species conservation projects use Twitter. Crayfish UK (@crayfish\_uk) reports on the efforts being made to conserve the white-clawed crayfish, the UK's only native crayfish species. Following on from the success of the Scottish Beaver Trial (@ScottishBeavers), the Welsh Beaver Project (@beaverafanc) is working to reintroduce beavers to the wild in Wales. Even mayflies and caddisflies have their champions: Craig Macadam (@bugsymac) and Aurora Sampson (@MadAboutCaddis), respectively!

To conclude, it has been said that Twitter leaves Kevin Bacon out of the loop (!) because anyone on Twitter is easily reachable. Traditional hierarchies are broken down and you can have conversations with people that you might not otherwise reach. Twitter supports a unique network of scientists at all career stages. Early career researchers can get to talk to the old hands. You can express your point of view, present your evidence and have constructive responses that may challenge your thinking. Everyone has a voice. Come join the conversation! It is fun!

## All change in Wales - Natural Resources Wales

The new Government body is introduced below.

On 22 May, 2012 the Minister for Environment and Sustainable Development announced that the Welsh Government would be proceeding with its proposals to create a single body to undertake the management of Wales' natural resources. From 1 April 2013, Natural Resources Wales (NRW) will take over the functions currently carried out by the Countryside Council for Wales (CCW), Forestry Commission Wales (FCW) and the devolved functions of Environment Agency Wales (EAW). Natural Resources Wales has been set up to meet the significant challenges of delivering the future environmental needs of Wales, in a way that provides best value for the Welsh Government and, ultimately, the public. Wales has a unique opportunity to demonstrate how a country's natural resources can be managed to ensure better outcomes for the environment, businesses and people of Wales. The new body will play a leading role in meeting the exciting challenges ahead as part of an aspiration for a more sustainable future.

The Natural Resources Wales Board consists of the Chair, the Chief Executive, and ten Non-Executive Directors. They are:  
Chair Professor Peter Matthews  
Chief Executive Dr Emyr Roberts  
Non-Executive Directors - Dr Mike Brooker, Rev Hywel Davies, Dr Ruth Hall, Dr Madeleine Havard, Harry Legge-Bourke, Andy Middleton, Morgan Parry, Nigel Reader, Prof Lynda Warren, Sir Paul Williams

Natural Resources Wales will have a small Office of the Chair and Chief Executive based in Cardiff and our other functions will be dispersed throughout Wales. If you have an existing contact, please continue to send letters to their usual address. Otherwise, please contact our customer service centre who will be able to provide you with an office address for the person you are writing to.

The new Natural Resources Wales website will be available from 1 April 2013. You will be able to find all the information here that you would have found on the CCW, EAW and FCW websites and you will be able to complete all your usual business transactions via this site too. The new website address will be [www.naturalresourceswales.gov.uk](http://www.naturalresourceswales.gov.uk), although this site will not be operational until 1 April 2013. In the short-term, some of the information will be provided via links back to pages on the Environment Agency and Forestry Commission GB websites.