

Editorial



It is a pleasure for me to introduce another edition of *Freshwater Reviews*, the first part of the second volume! The event is of modest significance, I suppose. In the context of the four years that have elapsed since the proposal to have a new house journal was first mooted, however, I think that the Freshwater Biological Association can be satisfied with the contribution the Journal promises to lend to its mission objective of encouraging the study of freshwater science as the best way to understand, protect and manage our precious water resources. The Journal seeks to make such studies accessible to its members and to a wide audience of scientists, teachers, students and managers. It is the task of the editorial staff to encourage the submission of relevant and topical contributions, from acknowledged experts, and to see that the finished articles are as factually informative and as readily fathomable as possible.

The pressures on water resources – the exploitable part of the hydrological cycle, quality, biological health and diversity – go on increasing. While the challenge of engineering freshwater supplies is addressed to an extent, there is still much too little appreciation of the simultaneous negative effects of the intervention on natural flows to healthy communities, too little regard for the incidental impacts of a growing human population, in terms of pollution and eutrophication, and too little understanding of the ecosystem services provided by biodiversity. The confounding factor of impending climate change makes the problems that much more intractable. *Freshwater Reviews* is not about to reverse these trends but its aspiration is to bring increased understanding to those who might yet do so.

In this issue, one of the papers draws particular attention to the challenge of looking after resources in the face of contemporary multiple stressors. Stewart Clarke is a senior ecologist with the national agency for conservation in England; his article points to the mismatch of management priorities based on local site- and species-characteristics to the broader context of regional-scale climatic change. In a not unrelated vein, Jani Heino's review highlights the use of the sensitivity of aquatic insects to environmental change, showing also how biodiversity is particularly subject to effects of variation at the larger scales.

This edition also includes a thoroughly modern, expert review from Rainer Kurmayer and Guntram Christansen on the genetic control of cyanobacterial toxin production, illustrating the array of techniques available to the molecular biologist. Apart from its deep academic interest, the methodology is sufficiently sensitive and robust that it makes possible the detection of toxic genotypes in a lake long before the organisms become abundant and constitute a public hazard. We also welcome another article from one of my respected colleagues, Jack Talling. 'Conductivity' (more correctly referred to as 'electrical conductance') has long been in use, as a simple, standard index of water quality. But what does it really measure, and what are the limits of the inferences to be made from the data obtained? Talling's fascinating insights will assist the precision of measurements and the confidence in the data thus assembled.

I am especially happy to include the paper by Jane Fisher and her colleagues, on the Shropshire-Cheshire Meres of the English north-west Midlands. I admit that, in part, this is motivated by sentiment for they are the very sites I studied 40 years ago, at the start of my own career. It is interesting to see how sites have changed but also to find that the authors

confirm many of the measurements that seemed extravagant at the time! High nutrients do not always mean low water quality (not for amenity or biodiversity, at least) but, as in this case, another kind of vibrant aquatic system!

As always, I record my appreciation to all authors, reviewers and the production staff.

Colin S. Reynolds

Editor