



Established 1968

## New Zealand Freshwater Sciences Society

*GST No. 51-999-762*

*Website:*

*<http://freshwater.rsnz.org>*

Julia Duzant  
Ministry for the Environment  
WELLINGTON

18 May 2009

Dear Julia

### **SUBMISSION ON THE DRAFT WATER RESEARCH STRATEGY**

Thank you for the opportunity of commenting on the draft Water Research Strategy (WRS) prepared for the Foundation of Science Research and Technology. This submission is on behalf of the New Zealand Freshwater Sciences Society (Inc) which was established in 1968 as the New Zealand Limnological Society and has recently celebrated its 40<sup>th</sup> anniversary. It is a constituent society of the Royal Society of New Zealand, and has some 370 current members. The Society's membership is drawn from the freshwater academic, consultancy teaching and management communities, and many members are involved directly in research or are primary end-users of research findings. The Society holds an annual conference to facilitate the exchange of research findings and applications, and publishes books synthesising research results, such as *Freshwaters of New Zealand* produced in association with the New Zealand Hydrological Society.

In a recent survey of causes of stress in Society members, several issues related to research funding and administration were highlighted. In particular, declining and insecure funding is increasing workload pressure and causing job security concerns among members. Increased and more secure funding, particularly long-term core funding, to provide stability and enable increased support was identified as the key action to alleviate work-related stress. The results of this survey were forwarded to FRST. An appropriately focused and implemented research strategy is therefore important, not only to support the wise management and protection of freshwater ecosystems currently under pressure from human demands, but also because its implementation has a major bearing on the welfare of the Society's members, the fostering of freshwater research careers among young scientists, and the maintenance of a core of experienced researchers and practitioners.

Due to the short timeframe for responses, it was not feasible to solicit comment from our general membership, so I have prepared a submission in my capacity as President, in consultation with our Executive Committee. Our membership has diverse interests and consequently can be expected to have a diverse range of views on the research questions and recommendations in the WSA, and we do not see it as our role to comment on the detail of these specifically. Rather, we provide high-level comments on five key issues: Consultation, Key drivers, Aims, The need for fundamental knowledge, and Research versus implementation. We note the absence of mention of introduced species management which will apparently be part of a separate Biosecurity review, although we consider the two closely related.

## **1. Consultation**

It is a concern to us that a draft document recently released for “consultation” appears to have already been incorporated into published FRST research themes. The Freshwater Contestable Request for Proposals for 2009/10 was released on 24 April and incorporates many of the research recommendations outlined in the draft Water Research Strategy. Although the FRST RFP was released as a “draft”, NZFSS has not been advised of a mechanism for making submissions on that document, although regional councils and some other agencies do appear to have been invited to do this. The restricted consultation and the short timeframes involved suggest that any recommendations for major change in the WRS would have little influence on the RFP in the current funding round.

We also question whether sufficiently broad consultation on the WRS has occurred within the research community, members of which are also stakeholders in research outcomes and who after all will provide the expertise for implementing the research strategy. While it appears that there has been consultation from end-users who provide valuable input to ensure the research is appropriately focused for their use, research scientists also have important overviews on information gaps, future directions and achievable outcomes. New Zealand has a wide range of research providers including consultancies, CRIs, government agencies and universities. While we accept that it is difficult to get everyone’s views, let alone reconcile them, earlier consultation with NZFSS and other professional societies would have been helpful to obtain a wider range of perspectives, given the weighting this document has clearly received in the FRST RFP and its influence of research direction over the next decade.

## **2. Key drivers**

The preamble of the WRS strongly indicates that economic outcomes are a key driver of this document, and there is an implicit undercurrent throughout that freshwater ecosystems are resources to provide for human use. This is reinforced by the use of terms such as “derive maximum value”, “avoid difficult-to-reverse adverse impacts”, and “tipping points”. At the negative end of the scale, tipping points are where often irreversible regime shifts occur, with potentially catastrophic effects on species and ecosystems. Recent state of the environment monitoring and analysis confirms that, for many freshwater environments (e.g., lowland lakes), we have already exceeded ‘tipping points’, and further investigation is no longer a matter for research. Any inference that research should aim to identify how far ecological systems can be pushed up to such points runs counter to precautionary and sustainable management principles embedded in the current legislation and the consciousness (in my experience) of the great majority of environmental scientists. A key driver of research, in our view, should be to arrest and reverse decline in the degradation of freshwater environments prevalent throughout much of the developed parts of New Zealand.

## **3. Aims**

The stated aim of the strategy is “to enable management decisions...that strive towards sustainable use of water” “at the national, regional, catchment and land use scales”. There is no mention in the aims, or indeed the entire document, of the need to protect ecological or other freshwater values, and to sustain species or communities and ecosystem processes or functions. The scales at which these respond to management include catchments but also habitats, ecosystems and networks. Management based around land uses, regions and in many cases nations, although administratively convenient, imposes artificial boundaries and may limit management opportunities.

## **4. The need for fundamental knowledge**

Much of the progress in freshwater management over the last 10 years has been underpinned by many decades of research, much of which addressed fundamental science questions. The WRS does not seem to recognise the need to continue to acquire fundamental knowledge about intrinsic aspects related to species, habitats, ecosystems and ecological processes. As knowledge is acquired and understanding evolves at these levels, new and innovative ideas with management implications emerge. The acquisition of fundamental knowledge is as important over the long term as is the progression of applied

research and development of tools. Not all research needs to lead to tool development to be useful; the understanding provided through fundamental knowledge has played a key role in enhancing management and protection of freshwater ecosystems.

### **5. Research vs implementation**

There seems to be tendency in the WRS to mix (or confuse) research with implementation. Developing regulatory instruments and guidelines, describing values, and quantifying the amount of surface water etc., are not the roles of research scientists but are the core work of government agencies. The tendency to blur the boundaries between productive research and implementation of research findings in management or policy contexts threatens to divert key research skills from the core business of science. There are currently mechanisms in existence, such as Envirolink, that facilitate the transfer of research findings to the tools stage at the appropriate time when the demand is there. While most research scientists would, no doubt, be thrilled to see their research findings used in a practical and positive way, concentration of science funding on tool development rather than research to underpin management may compromise the ability of science to make significant progress in some areas. We suggest that, while management issues help crystallize research questions, inventory and the development of policy remains the responsibility of agencies charged with monitoring and implementation.

I hope you find these comments constructive and useful.

Yours faithfully



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For the New Zealand Freshwater Science Society (Inc).

cc Bill Dyck