

6 September 2016

Conservation and Environment Science Roadmap
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The Land and Water Forum

The Land and Water Forum (the Forum) comprises 54 non-governmental organisations including iwi, primary industry groups, infrastructure operators and environmental NGOs. It also has active observers from central and local government. The Forum adopts a multi-party collaborative approach and strives to reach consensus across commercial, environmental and cultural interests and form recommendations to Government on land and fresh water management policy. The Forum has received three sets of mandates from the Government to provide it with advice on freshwater management. The Forum has provided a suite of recommendations over four reports from 2010 to 2015, spanning strategy to detailed implementation.

The Forum's previous advice

Across its four reports, the Land and Water Forum has identified that the information, science and modelling needs for freshwater management are significant. The Forum has commented on the need for more funding to be provided for these activities, and for a rationalisation in the way that funding is provided. Sound management of fresh water lies at the heart of New Zealand's economy and its societal wellbeing. We need more access to water for use and a decline in some aspects of freshwater quality is occurring. For these reasons, the Forum is generally supportive of the roadmap.

The Fourth report of the Land and Water Forum identified the following high priority areas for extra government funding for information and science:

- A national information framework
- Assimilative capacity/attenuation
- OVERSEER
- Tools for the restoration of highly degraded urban streams.

What follows are some specific comments on the research priorities and questions for themes relevant to the Forum's work.

Theme 3 – Freshwater ecosystems and processes

In general, the research questions for the freshwater ecosystems and processes theme are reflective of the priorities identified by the Forum. The Forum has identified two specific high-priority areas with wide buy-in from its stakeholders. They are:

- research into catchment-by-catchment information on the spatial variability in assimilative capacity; and
- OVERSEER – specifically on the mitigations able to be modelled, making it work better for all land-use types and fixing the problem with previous versions not being available (which can be problematic when using it in regulation).

These areas are particularly important for providing the information and knowledge needed to manage diffuse discharges. More research and measurement tools are needed to understand the effects and extent of diffuse discharges below the root zone. At present we are too reliant on input models. We need a much stronger understanding about outputs – their measurement, their extent, and their effects. This will enable us to better understand patterns of leaching and attenuation needed to set up regulatory systems that are efficient and allow land users to be productive and profitable in a limits-based environment.

Theme 6 – Urban ecosystems and processes

Urbanisation has radically altered the natural landscape. Some urban streams no longer resemble their natural state at all – they are sometimes piped, and/or have impermeable (e.g. concreted) surfaces. Subjecting these streams to additional freshwater regulation is challenging.

The Forum specifically recommended research into tools to help improve water quality in highly degraded urban streams. We submit that this be given higher priority in the roadmap.

Theme 11 – Informatics, modelling and monitoring

The Forum's recommendations placed a greater emphasis on data standards and interoperability of modelling. The general idea was to avoid each council having to reinvent the wheel on accounting, modelling and monitoring tools and enable them to use the same ones, and for different models to be interoperable and different communities to be able to understand and make use of each other's tools and data. We recommend this be given higher priority in the roadmap.

Yours sincerely



Hugh Logan
Chair, Land and Water Forum