

Regional policy managers SIG research position

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1 Strategic approach to environmental management research

The scope of research

In the development of the regional sector's research strategy, the policy managers SIG has consistently seen no great distinction between research into the applied science of an environmental issue, and research into policy solutions. It's all management research. So research is broader than "science" (the subject) or "policy" (the decision framework). Research should seek to improve understanding and efficacy of both problems and solutions. This suggests the goal of the sector's research strategy, in support of improving environmental management.

However, both science and policy activity can be separately carried out, and so policy may be poorly linked to its science bases, and the policy context for science may not be built into the research. There are several problems arising:

- research is then seen exclusively in terms of science understanding without clarity about potential solutions. This risks responding to the management issues or pressures in inefficient or ineffective ways.
- research into solutions or frameworks for assessing solutions may not be adequately linked with understanding of the nature or source of the problem where there are exacerbator actions
- research into policy design and delivery may be poorly understood or prioritised.

In order to be effective in responding to environmental management challenges, the scope of any research strategy needs to cover systemic, transdisciplinary research where the scope of the challenge requires integrated inquiry, as well as specific disciplinary content.

History of policy managers SIG research priorities

In 2007 the policy managers SIG commissioned research for guidance on evaluating RMA policy and plan effectiveness, as a key policy-relevant priority. This work sat outside any sector research strategy.

In 2011 as part of the regions' science strategy review, the policy managers SIG sought priority research on a number of resource management themes (water, urban, hazards, aspects of coastal management) as they were significant policy issues for which resolved policy was problematic around NZ. We also sought research into some key aspects of policy development:

- resource and environmental services valuation, in order to compare both market and nonmarket resource values, where inter-related risks needed management; and
- useful approaches to policy evaluation required under RMA. The decision support system (DSS) directory as an Envirolink tools output, falls neatly into this need, but the directory is poorly developed in both environmental services valuation and policy evaluation DSSs.

In 2012, we sought a tools grant for work on economic tools for policy evaluation; this was unsuccessful against more biophysical science-based bids.

In 2014, in the MFE development of RMA s 32 guidance, we commented on the dearth of research to support resource management policy-making. We promoted the the development of a more refined range of environmental policy evaluation frameworks, methods or tools, and to help build more decision-relevant data management under resource science. This advocacy is made in the face of the huge investment capture for state/risk monitoring and reporting by our resource science community (eg. the current scope of LAWA site). Our advice was built into MFE's 2014 s 32 guidance just published but only as far as current knowledge and the fiscal constraints of MFE allowed.

More recently MFE has set up a practitioner network for economic aspects of decision-making in freshwater management; several SIGs contribute participants to this. This may intersect with policy evaluation research priority-setting.

2 Policy-relevant research priorities

We see gaps and so needs in the following resource and environmental policy-relevant research areas:

1. *Valuing and accounting for the environment*

Integrating different frameworks and associated methods for understanding the dynamics of values held for resources and the environment. This is necessary across the spectrum of services, goods and uses, including ecosystem, economic, social and cultural dimensions. This enables resource managers to better model and deal with any issue, problem or risk, and potential policy or decision solutions. This includes:

- a. Systemic approaches to dynamic assessment of resources or aspects of the environment (eg. spatial modelling) that explicitly address uncertainties
- b. development of accounting systems across natural resource stocks and flows, to capture total and marginal values in any time-spatial context, and associated needs for data system development. These systems need to integrate market values (welfare economic use of dollar accounting, resolved to present value) with proxy social values

2. *Improving policy evaluation*

Understanding the range of policy development methods and tools for the design and evaluation of policy or other decision responses. Improving these methods and tools to ensure that they can adapt to different framework, valuing and accounting systems, and systemic complexities and uncertainties including risks. This includes:

- a. Understanding practice efforts to date in RMA plan and policy evaluation to refine evaluation needs
- b. Tuning currently available or applied evaluation methods to the range of different policy issues under RMA (s 32)

3. *Improving community planning processes*

Understanding and developing social processes for iterating problems and solutions development and delivery (eg. collaborative planning) including relationships within and between social collectives and institutions. This is in order to retune and help improve practice success in environmental policy development, including what can and can't be done under RMA plan processes

4. *Improving legal tools for practice*

Legal systems research to understand the framework bases for current resource law and policy, and the scope for redesign of improved instruments for resource allocation and use. This includes:

- a. evaluating the value and risk response decision-making machinery under RMA, to account adequately for the sustainable benefits of natural resource goods and services in managing allocation and use regimes
- b. accounting for uncertainty including risk in decision-making.

This broad set of policy-relevant research priorities are:

- **strategic** in being for improving environmental management across a wide scope of practice.
- fundamentally **science-based** (in method); not directly about environmental science (as the subject); but rather about the **decision** outputs and **policy** processes of environmental management, as opposed to science inquiries to generally inform such management.

These two features of policy-relevant research are closely linked. The policy managers SIG readily supports and relies on the research effort into management implications of areas of science content. But we also want to see more sense made across environmental domains and decisions, and of the socio-economic and decision perspectives as well as the biophysical, of management issues and solutions.

3 Research strategy delivery

We are also mindful of research delivery issues, under the current and foreseeable research funding and provider landscape. We note that decisions on the form of research or on the provider have not in the past always adequately accounted for all regional council user perspectives. This may lead over time to inefficient investment with overlapping or missing elements. There are capture risks, where in

defining the scope of need, the regional sector may lack an adequate national perspective or be internally captured by a particular disciplinary perspective. There is also the risk of capture by particular providers which may not be fit for purpose.

A current example is how to progress research into resource and environmental valuation. Is it teaching or research in the academic (planning and economics) sector; methodological research by science providers such as CRIs/Cawthron (including under NSC funding); or some tool development by the government?

The SIG considers that the strategy must be definition and delivery pathway-open, in thinking about the nature of the research problems, and in advocating or progressing pathways of action to deal with them. This suggests more collaborative conversations within and outside the sector with providers and funding decision-makers.

But the strategy should include some delivery pathway preferences, for example:

- preferring co-operative rather than competitive means of defining, securing and delivering the priority research efforts
- how we want to use Envirolink
- agreeing on provider attributes
- the appropriate SIG roles in maintaining their several stakes in almost any research effort.

The SIG review currently to help improve how the SIGs operate together, should inform how the sector's research strategy is formulated and sought to be delivered. We respect the role of the SAG, but consider that the policy context and drivers for research need adequate recognition in the strategy renewal process.