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Resource Management System Review: Submission on the Issues and Options Paper

By **Kevin Counsell**

Introduction

1. The Resource Management Review Panel is conducting a review of New Zealand's Resource Management Act 1991 (RMA) and other significant legislation comprising the resource management system. In November 2019 the Panel released an Issues and Options Paper in relation to that review.¹ The present paper is a submission on the Issues and Options Paper, authored by Kevin Counsell of NERA Economic Consulting.²
2. I am an economist with expertise in environmental, competition, and regulatory economics. I have undertaken consulting work in the field of environmental economics, including assessing the economic effects of resource consents and planning regimes under the RMA, and have provided expert evidence before hearings panels and the Environment Court. I have published in peer-reviewed journals on economic issues as they relate to New Zealand's resource management system. I hold a master's degree in economics with distinction, a first-class honours degree in economics, and an undergraduate degree in mathematics, all from Victoria University of Wellington.
3. The Review Panel is seeking comment on a wide range of issues covered in the Issues and Options Paper. My submission is confined to the following two issues referred to in the Paper:
 - a. Issue 7, Question 22: How can planning processes at the regional and district level be improved to deliver more efficient and effective outcomes while preserving adequate opportunity for public participation?
 - b. Issue 8, Question 24: How could consent processes at the national, regional, and district levels be improved to deliver more efficient and effective outcomes while preserving appropriate opportunities for public participation?

4. My submission will explain why I believe that both planning processes and consent processes can be greatly improved by better utilising the economic technique of cost benefit analysis (CBA). CBA is a tool that involves the systematic identification of all the benefits and costs of a project or action, quantification of those benefits and costs in monetary terms, and aggregation into a present-day monetary measure of net benefits.
5. As I will explain in Section 2 of my submission, the application of CBA in RMA decision-making to date has either been inadequate or, in many cases, completely absent. In my view, this has led to less efficient and effective decision-making in RMA planning and consent processes. In Section 3 I set out why I believe proper, robust application of CBA will lead to superior decision-making outcomes. I conclude in Section 4 by suggesting a way forward for incorporating more robust CBA into New Zealand's resource management legislation.

The Poor Application of CBA in RMA Decision-Making

6. CBA is a widely used economic technique that provides for the systematic identification and quantification (in monetary terms) of costs and benefits, allowing the decision-maker to assess whether the benefits of a particular decision, project, or action exceed the costs. It is a technique that is currently reflected in the RMA via section 32(2). This requires that whenever a plan, plan change, or policy statement is prepared, it must be accompanied by an evaluation report that will:
 - (a) *identify and assess the benefits and costs of the environmental, economic, social, and cultural effects that are anticipated from the implementation of the provisions [in the plan, plan change, or policy statement], including the opportunities for*
 - (i) *economic growth that are anticipated to be provided or reduced; and*
 - (ii) *employment that are anticipated to be provided or reduced; and*
 - (b) *if practicable, quantify the benefits and costs referred to in paragraph (a).*
7. Despite this requirement, in my experience the application of CBA to section 32 evaluations has been relatively poor. I note that the Review Panel expresses a similar view, stating at [102] of the Issues and Options Paper that:

There has often been poor application of cost benefit analysis as part of the regulatory process, as required under the current section 32/32AA evaluation report process.
8. Indeed, section 32 evaluation reports often identify benefits and costs along the lines of "a benefit of the provision is that it will allow the regional council to consider x, y, and z" or "a cost of the provision is that it will fail to meet statutory obligations". These are assessments of the provisions themselves, and do not attempt to assess the "effects that are anticipated from the implementation of the provisions", as is required under section 32.

9. Moreover, many section 32 evaluations make no attempt at quantification, even where it was possible and useful to do so. This may be, in part, because the requirement to quantify benefits and costs (section 32(2)(b)) was not implemented until relatively recently in the RMA's lifetime, when the RMA Reform Act of 2012 was introduced. Nonetheless, even after the introduction of section 32(2)(b), the "if practicable" caveat appears to be used as a means by which any form of quantification can be avoided.
10. As a recent example, the section 32 analysis accompanying the Greater Wellington Regional Council's (GWRC) Proposed Natural Resources Plan, publicly notified in July 2015, assessed benefits and costs almost entirely in qualitative terms. Submissions on the proposed plan were heard by an independent hearings panel in 2017 and 2018, and GWRC evidence before that panel was that a quantitative assessment was "not mandatory under the RMA", citing evidence of the "if practicable" wording of section 32(2)(b).³ The hearings panel ultimately accepted this evidence.
11. The section 32 provisions for CBA also only apply in respect of plans, plan changes, and policy statements; there is no explicit legislative requirement to undertake CBA in respect of decisions made on significant resource consent applications (I return later to what resource consent applications may be considered "significant").⁴ This has generally led to CBA being absent in its entirety from such applications. In some ways, CBA may be more straightforward for a resource consent application than for a plan or policy statement, as it might be easier to identify the outcomes and effects for a single resource consent application than for a plan or policy statement with multiple potential outcomes. Even so, CBA for significant resource consent applications has generally not occurred.
12. The relatively limited use of rigorous CBA in RMA decision-making may have been in part because, following its inception, economists considered that CBA was less necessary under the RMA than it was under its predecessor, the Town and Country Planning Act 1977.⁵ CBA is a tool that is used when a centralised decision-maker needs to make an assessment of the relative costs and benefits of a project. However, the argument was that, by taking an "effects-based" approach, the RMA seeks only to mitigate the adverse effects of resource use (by "internalising" them with the consent holder), thereby allowing the market (rather than a centralised decision-maker) to determine the net benefits. It followed, so the argument went, that there would be no need for CBA.
13. However, the difficulty was that as any undergraduate microeconomics textbook will show, fully internalising the adverse effects of resource use (and accordingly achieving optimal market allocation) requires well-defined property rights and often the use of price signals.⁶ As the Review Panel has noted,⁷ such price signals (and economic instruments more generally) are not widely used in the RMA. Moreover, markets for the allocation of resources may simply not exist, meaning that a market-based solution cannot be determined. As the Environment Court noted in *Lower Waitaki River Management Society v Canterbury Regional Council*, resource allocation decisions cannot be left to the market "where there is no competitive market".⁸ In these circumstances, some form of centralised resource allocation mechanism may be needed.

14. To fill the void arising from CBA's omission in RMA decision-making, particularly for resource consents that have warranted material assessment, an alternative form of economic analysis has often been the focus. This analysis involves assessing the employment and growth implications of a resource consent, typically at a regional level. These metrics can resonate with the directly affected general public and elected councilors, who are often concerned with how a project will affect their regional economy. However, they are not a good measure of "wellbeing", insofar as they show only the gross effect of an activity, and ignore the costs that are imposed on society when inputs are taken away from one activity in the economy and applied to another.⁹
15. Indeed, if the purpose of resource management legislation is to provide for wellbeing, then, to an economist, this is equivalent to the concept referred to by economists as "welfare". Welfare reflects the net economic benefits that individuals and groups in society in aggregate receive from an activity.¹⁰ It is essentially a measure of how much "better off" society (in aggregate) is because of a particular activity, based on the difference between all of the market, non-market, and intangible benefits and costs of that activity. On its face, wellbeing is suggestive of the overall satisfaction of individuals and groups, and this is synonymous with the concept of welfare.
16. It is CBA that provides a measure of the total welfare arising from a project or activity, so it is CBA that provides the best way to assess the nation's wellbeing. As I explain in more detail in the next section, undertaking such an assessment would greatly enhance decision-making in respect of New Zealand's resource management system.

Using CBA to Improve Environmental Decision-Making

17. As discussed above, CBA has been either lacking or poorly applied in respect of decision-making under the RMA to date—a point that is echoed in the Issues and Options Paper (at [102]). Therefore, any reform of the resource management system provides an opportunity to greatly enhance the role played by CBA in environmental decision-making. In this section I provide three reasons why I believe CBA should play a greater role.
18. First, if a focus of any resource management system is the wellbeing of New Zealanders, then CBA provides a measure of that wellbeing, at least as wellbeing is understood in the discipline of economics, being equivalent to the concept of welfare. Indeed, CBA's strong conceptual economic underpinnings are based on the economics sub-discipline of "welfare economics". As noted above, welfare is essentially a measure of how much better off society is in aggregate.
19. Importantly, welfare applies to all aspects of human activity. For example, it applies to market transactions, such as buying a house, but it also applies to more ethereal activities, such as experiencing the aesthetic qualities of a pristine environment or undertaking a recreational activity on a waterway. Humans experience a benefit from such activities, but may also incur costs, and an analysis of welfare, as conducted through CBA, captures all these relevant benefits and costs.
20. In short, if wellbeing is the objective of a resource management system, then CBA is a necessary decision-making tool for assessing whether wellbeing is achieved.

21. Second, CBA, particularly where it includes rigorous quantification of benefits and costs, provides a relatively objective framework for decision-making. Indeed, it will often be very difficult to form an objective view on whether the total benefits of a certain project or activity exceed the total costs without some idea of the monetised values for all relevant benefits and costs. CBA challenges parties to clearly specify their assumptions, and allows for independent testing of those assumptions, in a way that can help mitigate any pre-existing views and opinions of those involved. It also provides a tractable way of organising information in complicated cases, clarifying what is at stake and thus putting decision-makers in a position to make superior decisions.¹¹
22. An oft-raised concern with some quantification techniques used in CBA, particularly in respect to monetising impacts on “non-market” environmental elements such as landscapes, ecosystems, or endangered species, is that they are inherently uncertain, and that they lack sufficient rigour to even be used in the first place. For example, Christensen (2013, p. 313) discusses economic evidence presented to the Environment Court in the Escarpment Mine Project, which noted that non-market valuation is “fraught with difficulties”, often using experimental methods and hypothetical questions.¹² In a classic article from 1994 on the use of a survey-based approach to determine monetary values for an environmental good or service, US economists Peter Diamond and Jerry Hausman conclude that this particular approach is so “deeply flawed” that the absence of any analysis (i.e., “no number”) is better than a survey-based analysis that provides “some number”.¹³
23. While there is continued debate in the economics literature on the validity of non-market valuation techniques, the techniques in general have improved considerably in recent years.¹⁴ These techniques are also becoming considerably more commonplace. They are used, for example, by the UK Environment Agency and the US Environmental Protection Agency. In New Zealand, survey-based approaches are used by the New Zealand Transport Agency to estimate willingness-to-pay for various transport-related benefits, and some environmental values are included in the Treasury’s CBAX tool, which is a database of values for monetising impacts in cost benefit analysis. The widespread use of these techniques has led to two standards being developed by the International Organization for Standardization: 1) ISO 14007 (Environmental management: Determining environmental costs and benefits – Guidance) and 2) ISO 14008 (Monetary valuation of environmental impacts and related environmental aspects).
24. In a seminal paper that attempts to value the world’s ecosystem services and natural capital, Costanza et al (1997) note the importance of valuing “intangibles” such as environmental goods and services.¹⁵ The decisions we make as a society, they argue, imply valuations. The issue then becomes whether or not we choose to make those valuations explicit (e.g., in CBA). The view expressed by Mace (2014) is apposite:¹⁶

...if the benefits provided by nature are assigned no value, they are treated as having no value, and current trends in the decline and deterioration of natural systems will continue.

25. Of course, it is important to recognise that non-market valuation techniques are essentially economic models, and like all models they are not perfect depictions of reality. Their application needs to avoid creating a false sense of precision, and they should be “sanity checked” against the qualitative facts and evidence. It is important to consider not only the rigour with which the models have been constructed, but also their applicability to the matter at hand, and any limitations they have within the context of this matter. With this sort of careful analysis, there can be considerable merit in applying non-market valuation techniques to obtain a feel for the magnitude of the relevant values. If certain environmental benefits or costs cannot be quantified, they can nonetheless be identified and analysed as to whether they are likely to be substantial or trivial.
26. The third and final reason for why CBA could add significant value to environmental decision-making is that CBA expands the suite of tools that are available to be used by the decision-maker. Importantly, it does so in a way that provides a complementary tool to other, more qualitative forms of analysis that guide environmental decision-making. By adding to the existing tools, while not substituting for what they have to offer, CBA provides for superior decision-making.
27. Indeed, I note that CBA is widely used by decision-making agencies in both New Zealand and overseas. Examples include:
- a. The New Zealand Commerce Commission’s use of CBA in respect of authorisations of conduct or agreements that would otherwise raise competition concerns. The Commerce Commission assesses, quantifies, and balances the benefits and costs to determine whether the conduct or agreement gives rise to a net benefit to the New Zealand public;¹⁷
 - b. The New Zealand Transport Agency’s (NZTA) use of CBA as part of its economic evaluation of transport investment projects. The NZTA’s assessment can include the monetisation of non-market impacts, such as the effects of transport investments on water quality, ecological systems, and visual amenity;¹⁸
 - c. The New Zealand Electricity Authority’s use of CBA for various proposals relating to the regulation of New Zealand’s electricity markets;¹⁹
 - d. The United States Environmental Protection Agency’s (US EPA) use of CBA in respect of environmental regulations and policies;²⁰ and
 - e. The United Kingdom Environment Agency’s use of CBA in respect of regulations relating to, for example, flood and coastal erosion risk management²¹ and water quality improvements.²²
28. The widespread use of CBA by credible decision-making agencies throughout the world, often in respect of decisions for which the stakes are high, is testament to CBA’s power as a tool for guiding and enhancing regulatory and policy determinations.

Summary

29. In my submission I have set out why I consider that any reform of the New Zealand resource management system presents an opportunity to greatly enhance the role played by cost benefit analysis in environmental decision-making in New Zealand. Such analysis has been either absent or poorly applied under the RMA to date. A proper, robust application of CBA will allow for an assessment of whether environmental decisions enhance the aggregate wellbeing of New Zealanders, allow for relatively more objective decision-making, and complement the existing suite of decision-making tools.

30. To provide a practical way forward, I propose two ways in which CBA may be better incorporated into any future resource management system in New Zealand:

a. CBA should be a required element of not only plans, plan changes, and policy statements, but also in respect of what might be considered “significant” resource consent applications. Significant resource consent applications may be, for example, notified applications, or applications that are deemed to meet a certain economic value, and for which considerable assessment is likely to be warranted. As an example, the US EPA’s guidelines for the use of CBA apply in respect of “economically significant” regulations, which have an economic impact of US\$100 million or more;²³ and

b. The “default” option for CBA should be quantification of benefits and costs. I recognise that there can be circumstances where quantification is not possible, and therefore a caveat along the lines of the current “if practicable” may still be appropriate. Nonetheless, any caveat may need to be more detailed, such that the starting point is quantification, and where it is absent this should be justified, with non-quantifiable benefits and costs still taken into account in a robust manner.

31. Enhancing the use of CBA in resource management and environmental decision-making in New Zealand in this way will ultimately lead to superior decision-making outcomes.

Notes

- ¹ Resource Management Review Panel (2019), “Transforming the resource management system: Opportunities for change”, Issues and Options Paper, November.
- ² The views expressed in this document are personal, and this submission has not been commissioned by a client. The views expressed do not necessarily represent the views of other economists at NERA.
- ³ Decision on Submissions to the Proposed Natural Resources Plan for the Wellington Region, Part 1, 26 June 2019, at [3.6].
- ⁴ There may however be an implicit requirement for CBA. Section 7(b) of the RMA requires that decision-makers (including when assessing resource consent applications) take into account “the efficient use and development of natural and physical resources”. There are cases that have found it useful to apply the concept of economic efficiency under these provisions and utilise CBA for its measurement (see, e.g., *Federated Farmers of New Zealand (Inc) Mackenzie Branch v Mackenzie District Council* [2017] NZEnvC 53 at [456–457]).
- ⁵ See B. Easton (1998), “Is the Resource Management Act Sustainable? The Politics of the Coase Theorem”, *Planning Quarterly*, June, 5–8.
- ⁶ See, for example, Robert S. Pindyck and Daniel L. Rubinfeld (2009), *Microeconomics*, Seventh Edition, Pearson Education, Inc.: New Jersey at chapter 18.
- ⁷ Issues and Options Paper, at [117].
- ⁸ EnvC Christchurch C080/09, 21 September 2009, at [202].
- ⁹ I discuss this further in Kevin Counsell (2015), “Can’t get no satisfaction? Measuring economic wellbeing under the RMA”, *Resource Management Journal*, November, 9–13. See also, for example, Larry Dwyer, Peter Forsyth, and Ray Spurr (2006), “Economic evaluation of special events”, in Larry Dwyer and Peter Forsyth (eds.), *International Handbook of the Economics of Tourism*, Edward Elgar: Cheltenham, UK.
- ¹⁰ See e.g., Robert S. Pindyck and Daniel L. Rubinfeld (2009), *Microeconomics*, Seventh Edition, Pearson Education, Inc.: New Jersey, at p. 598; and, generally, Robert C. Griffin (1998), “The fundamental principles of cost-benefit analysis”, *Water Resources Research*, 34(8), 2063–2071.
- ¹¹ For a more detailed discussion of these points, see Kevin Counsell, Lewis Evans, and James Mellsop (2010), “Objective RMA decision-making: Cost benefit analysis as an economic and practical framework”, *Resource Management Journal*, November, 4–8.
- ¹² Mark Christensen (2013), “Valuation of Natural Assets under the Resource Management Act”, *New Zealand Journal of Environmental Law*, 17, 291–319.
- ¹³ Peter A. Diamond and Jerry A. Hausman (1994), “Contingent Valuation: Is Some Number Better than No Number?”, *Journal of Economic Perspectives*, 8(4), 45–64.
- ¹⁴ A similar point is made by Giles Atkinson, Ben Groom, Nicholas Hanley, and Susana Mourato (2018), “Environmental valuation and benefit-cost analysis in UK policy”, *Journal of Benefit Cost Analysis*, 9(1), 97–119.
- ¹⁵ Robert Costanza et al (1997), “The value of the world’s ecosystem services and natural capital”, *Nature*, 387, 253–260.
- ¹⁶ Georgina M. Mace (2014), “Whose conservation?”, *Science*, 345(6204), 1558–1560.
- ¹⁷ Commerce Commission (2013), “Authorisation Guidelines”, July.
- ¹⁸ NZTA (2018), “Economic Evaluation Manual”, 1 July.
- ¹⁹ See, for example, the Electricity Authority’s CBA in respect of its Transmission Pricing Methodology, Electricity Authority (2019), “CBA approach, methods and assumptions”, TPM Issues Paper 2019, 23 July.
- ²⁰ US EPA (2014), “Guidelines for Preparing Economic Analyses”, May.
- ²¹ Environment Agency (2010), “Flood and Coastal Erosion Risk Management appraisal guidance”, March.
- ²² As discussed in Atkinson, Groom, Hanley, and Mourao (2018).
- ²³ US EPA (2014), “Guidelines for Preparing Economic Analyses”, May, at chapter 1, p. 1.

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