

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

Lake Rotorua Nutrient Management –
PROPOSED PLAN CHANGE 10 to the Bay of
Plenty Regional Water and Land Plan

**STATEMENT OF REBUTTAL EVIDENCE OF NICOLA JANE SMITH
ON BEHALF OF THE BAY OF PLENTY REGIONAL COUNCIL**

Evidence topic: Economic impacts – district and regional economy

Qualifications and experience

1. My full name is Nicola Jane Smith. My qualifications, experience and commitment to comply with the Environment Court's Practice Note 2014 are set out in paragraphs 1-7 of my evidence in chief dated 12 January 2017.

Scope of evidence

2. Since preparing my evidence in chief I have reviewed the evidence provided by Philip Mark Osborne on behalf of Rotorua Lakes Council. I have also reviewed other evidence insofar as these raise economic matters.
3. In my rebuttal evidence I respond to matters raised in the evidence of Mr Osborne. I note that I do not intend to respond to every point raised in Mr Osborne's evidence, but I have focused on what I consider to be the central issues. Where I have not responded on other issues that does not mean that I necessarily agree with Mr Osborne's evidence on those issues.
4. In Mr Osborne's evidence he states "[t]he approach adopted by BOPRC for the allocation of nitrogen rights plays a pivotal role in the economics of both efficient resource allocation and equity (emphasis added). These issues are both directly related to the economic costs and benefits assessment directed in section 32 of the RMA and the principles established by BOPRC in evaluating the PC10 options (and identified in the ME 2015 report as guiding the assessment of economic impacts)."¹
5. Mr Osborne's evidence is also structured around distinguishing two alternative types of allocation mechanisms open to Bay of Plenty Regional Council (BOPRC). These are termed the 'natural capital' and 'grandparenting' approaches. He categorises the sector averages allocation mechanism chosen by BOPRC in Plan Change 10 (PC10) as a grandparenting approach.
6. In summary Mr Osborne's argument is that the natural capital approach is preferable to grandparenting because it produces better outcomes in terms of equity and efficiency. In my rebuttal evidence I address this argument by providing some brief comments on his categorisation of allocation mechanisms, and then discussing the concepts of equity and efficiency in the context of the allocation mechanisms.

¹Evidence of Philip Osborne at [30].

Nitrogen Allocation Mechanisms

7. The grandparenting- and natural capital-based approaches might be considered as two alternative mechanisms for property right allocation. This does not mean, however, that a package of rules for nitrogen allocation must be either one or the other. Rather, we can think of a spectrum of different approaches. Although the sector range allocation mechanism set out in PC10 might be considered to sit at the grandparenting end of the spectrum, it is not entirely a grandparenting-based approach. Land uses that, as a whole, have higher current nitrogen loads will receive higher initial allocations. The sector ranges recognise the variability in farms and farming, even in the same sector. However, individual land owners with nitrogen losses outside of sector norms do not receive a higher allocation just because their current loads are high.
8. Conversely the Horizons One Plan (which has been described in the evidence of James Britton Fuller, para 28-31) can be considered as an example of a more natural capital-based approach to nutrient allocation. However the rules in this plan also have a grandparenting aspect. Specifically regulations controlling intensive farming in some zones are different depending on whether the activity is new or existing.

Equity

9. Mr Osborne states that, in his opinion, the adopted approach to nitrogen allocation utilised by PC10, which as explained he terms the 'grandparenting' approach, raises significant concerns in terms of fairness or equity. He also states at that "[w]hile the ME 2015 report addresses the potential sector equities it does not address nor assess the level of impact on underdeveloped land".²
10. Specifically Mr Osborne argues that the approach adopted by BOPRC significantly disadvantages property owners of underdeveloped land³ and he also identifies Maori land owners as among those most disproportionately impacted in a negative way by PC10.⁴ My summary of his reasoning is that inequity occurs because parties that have not historically had the time, willingness or capital resources to develop their land are disproportionately penalised in that they will not be awarded the same level of nitrogen discharge rights as other land owners who

²Ibid [32],[39].

³Ibid [40].

⁴Ibid at [43]-[44].

have undertaken land development. Furthermore, by allocating higher nitrogen discharge rights to activities that currently produce higher nitrogen discharges, the allocation method potentially favours higher polluting activities.

11. I am in agreement with Mr Osborne where he states that “whichever allocative approach is finally adopted in PC10, the costs and benefits will not be evenly distributed”.⁵ This is important because it means that by implication, we cannot expect that a policy or allocation mechanism can ever be devised that will not result in some inequitable results. While economic evidence can help inform decision makers of the way in which impacts will be distributed according to different policy options, ultimately the question of how costs (and benefits) should best be allocated among members of society is a normative or value-based question. Such decisions are made by balancing equity considerations against a range of other values and objectives sought to be achieved, and by considering the way in which different policy options can practically be applied and enforced.
12. My economic modelling and analysis undertaken for BOPRC provided some information on the distribution of economic impacts by describing the distribution of value added and employment impacts among different economic industries under three different allocation scenarios. Additionally BOPRC received a report by Telfer Young (2014) on land values in the Rotorua area and Lake Rotorua catchment. The evidence in chief and rebuttal evidence by Sandra Barns provides further information on equity considerations that were taken into account in the selection of the allocation mechanism.
13. When considering equity it is important that consideration is given, in addition to the points set out by Mr Osborne, to existing capital investments. In the Lake Rotorua catchment landowners have, over many years, made decisions to invest resources in land development, machinery, buildings and other physical capital to allow for different types of production activities to be achieved. Many types of physical capital have a long life-time, and thus much of the investment existing in the Lake Rotorua catchment was made in a regulatory context prior to the Regional Water and Land Plan. Clearly all land development/capital investments were made without knowledge of the specific rules contained without PC10.
14. The costs of a rule that limits the land uses or activities are greater the more the land has been developed with physical capital investments. Essentially this is

⁵Ibid at [48].

because the rule restricts not only the use of the land for certain activities, but also the use of the existing physical capital for those activities. At the extreme, where the physical capital is quite specific to certain activities, and cannot be moved or employed elsewhere, it will become of little or no value to landowners. For these reasons the current patterns of land development and capital investment have important implications for the way in which the costs associated with reducing nitrogen loads will fall and the equity or fairness of alternative allocation mechanisms.

15. The Stakeholder Advisory Group (StAG) had regard to a broad set of principles and considerations set out in the Operative Regional Policy Statement. StAG also agreed on four principles for the allocation of nitrogen rights, including “existing investment (including in infrastructure, land value, cash investment and in nutrient loss mitigation) will be recognised.” It is my opinion that the principles considered by the Stakeholder Advisory Group (StAG) provided a sufficiently broad and appropriate framework for consideration of equity issues.

Efficiency

16. Mr Osborne notes that while BOPRC’s method of nitrogen allocation (i.e. the sector averages method termed the ‘grandparenting’ approach) was assessed in the Parsons et al and ME 2015 reports, he states that he does not believe that adequate importance has been identified or conferred to the level of the potential economic costs associated with the approach.⁶ While noting that a grandparenting approach typically results in lower transaction costs,⁷ he states that the converse of this approach is that there is an increased potential for the retention of economically inefficient land uses.
17. Mr Osborne explains why he believes the grandparenting approach will negatively impact on the viability for development of potentially highly productive land.⁸ In short, persons who wish to develop currently underdeveloped land will need to purchase potentially expensive nitrogen trading rights. He states that these additional costs of operation are likely to render many of these sites unviable. “This in turn is less likely to result in an economically efficient outcome with this margin of cost representing the potential difference in efficiency”.⁹ At

⁶Ibid at [33]

⁷Ibid at [34]

⁸Ibid at [40]-[42]

⁹Ibid at [42]

paragraph 46 he concludes that “[a]n allocation based on pre-existing operations like that currently proposed in PC10 simply, in my opinion, serves to reinforce existing inefficiencies and create additional barriers to the Rotorua rural economy becoming more efficient in the long run.”¹⁰

18. Efficiency is a cornerstone principle of economics. I understand it to mean providing for the greatest possible welfare given available resources. Human welfare is influenced not only by the ability to earn income and thus have access to economic products for consumption, but also a variety of other factors such as access to a high amenity environment, presence of social networks and connections, and so on. In the context of PC10, efficiency is particularly about employment of natural and other forms of capital in a way that maximises the value of agricultural and forestry production while at the same time meeting community water quality and other objectives.
19. Ultimately the extent to which an allocation mechanism will help to further (or hinder) efficiency strongly relates to the way in which the allocation influences the employment of land and other resources for economic production. The way in which primary production may change, including through land use change, under alternative allocation scenarios was considered in the farm systems modelling. This is explained in the evidence of Professor Graeme Doole. The direct changes derived in the farm systems modelling then formed an input to the modelling I undertook of district and regional economic impacts. I am satisfied that the farms systems changes that were provided to me gave sound information on the pathways the agricultural community may proceed with as a whole following nitrogen allocation.
20. As explained in my evidence in chief and the M.E 2011 report that I authored, the natural capital allocation scenario (Scenario 4) produced the same value added outcomes as the sector ranges scenario (Scenario 8), but a worse outcome when 50% trading frictions were imposed. My explanation of why this occurs is that, in order to meet water quality constraints, it is unlikely that all of the land in the catchment of the most highly productive class can be intensively farmed. Rather, in order to maximise primary production under water quality constraints, a likely scenario is ‘pockets’ of high intensity farming (with relatively high N losses), and other ‘pockets’ of low intensity land uses (with relatively low N losses).

¹⁰Ibid at [46].

21. When an allocation method results in a wide-spread allocation of nitrogen discharge rights across the catchment, the ability of intensive farming to occur anywhere within the catchment is reduced. Over time however, through trading, nitrogen rights can become concentrated in the ownership of some individuals or entities, providing more ability for intensive farming to occur. With this explanation in mind we can see why Scenario 8, which had a more even distribution of nitrogen allocation initially, performed more poorly than Scenario 4 when testing for the possibility of trading frictions. Essentially the level of intensive farming able to occur (i.e. dairy farming according to the farm systems modelled) was significantly less.
22. I also make the further observation regarding efficiency: If an allocation method is employed based entirely on natural capital, it will by its very nature give no consideration to other factors contributing to economic production. However, that is not the way in which land is utilised. Natural capital is an important component, but it is not the only one. The level of economic production that can be sustained on any land holding relates not only to the inherent natural capital of that land, but also the investments that have taken place on the land, the connections between that land and the wider economic system (e.g. its proximity to processing factories and its access to support services) and practical/legal aspects (e.g. land parcel size, existing land covenants). For these reasons the question of 'what is the most efficient land for economic production' is not strictly the same question as 'what is the land with the highest natural capital'? Given that pastoral and other primary activities have been occurring within the Lake Rotorua catchment for decades, we can expect that the current land use and development arrangements have evolved to reflect not only natural capital but also the distribution of other factors of production.
23. In summary: in the long term the particular allocation mechanism selected for PC10 is unlikely to have a material difference on the total level of primary production within the Lake Rotorua catchment. However, in the short-to-medium term, the sector range approach utilised by PC10 is likely to maintain production at higher levels compared to the natural capital-based approach favoured by Mr Osborne because:
- The sector range approach takes into account a wider range of matters which contribute to economic production;

- The sector range approach will involve lower transaction costs and less disruption to the existing farming system. Primarily this is because it will result in less of a 'mismatch' between the distribution of land development investments, and the distribution of nitrogen discharge rights.