

Before an Independent Hearings Panel

The Proposed Waikato Regional Plan Change 1

IN THE MATTER OF the Resource Management Act 1991 (**RMA**)

IN THE MATTER OF the Proposed Waikato Regional Plan Change 1, Block 1 hearings,
Topics B1 and B5

**PRIMARY EVIDENCE OF DR GAVIN SHEATH
ON BEHALF OF MIRAKA LIMITED**

(Practice Change)

Dated: 15 February 2019

BUDDLEFINDLAY

NEW ZEALAND LAWYERS

Barristers and Solicitors

Auckland

Solicitor Acting: **Jennifer Caldwell / Mathew Gribben**

Email: jennifer.caldwell@buddlefindlay.com / mathew.gribben@buddlefindlay.com

Tel 64-9-358 2555 Fax 64-9-358 2055 PO Box 1433 DX CP24024 Auckland 1140

1. EXECUTIVE SUMMARY

- 1.1 My full name is Dr Gavin Sheath. I am an Agricultural Systems Consultant and advisor to Miraka Limited.
- 1.2 Miraka seeks amendments to Plan Change 1 to place more emphasis on practice change to reduce the loss of all four contaminants and improve water quality. This is particularly important during the first ten years of Plan Change 1 and it will also provide a solid foundation for reductions into the future. Practice changes allows a more equitable approach to reducing all contaminants and provides the opportunity for a “settling in” period for farmers and communities in the first ten years.
- 1.3 The principles of practice change and what is needed to make them effective are outlined in the evidence of Dr Mark Paine and I support and agree with his views. My statement draws on these principles within the context of Plan Change 1.
- 1.4 Amendments are required to Plan Change 1 to effectively achieve practice change. These include:
- (a) New Freshwater Management /Sub-catchment Unit boundaries need to be established to provide more homogeneous physical attributes and community connectedness;
 - (b) Agreed Good Management Practices and evolving Farm Environment Plans (**FEPS**) for all farms will be important elements in implementing Plan Change 1; and
 - (c) Monitoring of impacts and feedback to land managers needs to be more robust in order to strengthen confidence to change.
- 1.5 Due to the interconnectedness of practice change and other Hearing topics more detail on Miraka’s position and decisions sought will be provided during Block 1 (B5 - FMUs, Sub-Catchments and Tables), Block 2 (C1 – Diffuse discharge management; C6 – Schemes) and Block 3 (C8 – Sub-Catchment Planning; C9 – Farm Environment Plans).

2. INTRODUCTION

- 2.1 My name is Dr Gavin Sheath. I am an Agricultural Systems Consultant and advisor to Miraka Limited (**Miraka**).
- 2.2 I have a Bachelor of Agricultural Science (Hons 1) and a PhD (Agronomy) qualification and have undertaken agricultural systems research and development in

New Zealand and overseas for more than 40 years. Since “retirement” I have been involved in governance roles with Māori farming entities, the deer/dairy/sheep dairy sectors and the Pastoral Greenhouse Gas Research Consortium. I have had an involvement with Miraka since it was established in 2011, providing advice in new product development and farming systems.

- 2.3 During my research career I worked with farmer groups to facilitate the adoption of new practices and technologies to improve sustainable profit. This work was recognised by the New Zealand Royal Society through its award of a Marsden Medal for taking science to the community. I have also set supply specifications for niche agricultural products, supported the implementation of supply by farmers and overseen monitoring and auditing processes. The experience mirrors the processes that Plan Change 1 will have to follow.
- 2.4 I have been part of the team at Miraka which has reviewed Plan Change 1, considered the impact on Miraka and the farming community and helped prepare Miraka’s submission and evidence.
- 2.5 I am authorised to provide this evidence on behalf of Miraka.

3. SCOPE OF EVIDENCE

- 3.1 The majority of my evidence for Miraka on the Plan Change will address the management and allocation of nitrogen discharges which I will be presenting in Blocks 2 and 3 (C1 – Diffuse discharge management, C6 - Schemes, C8 – Sub-Catchment Planning and C9 – Farm Environment Plans). However, this statement of evidence discusses the implications of practice change and the various ways that Plan Change 1 should be amended to incorporate and reflect practice change. It draws on the principles of practice change as outlined by Dr Paine. Practice change is a core theme of Miraka's submission and underpins a number of the changes sought.
- 3.2 My evidence should be read alongside that of:
- (a) Mr Grant Jackson, regarding practice change and Miraka’s experience with Te Ara Miraka;
 - (b) Dr Mark Paine regarding the principles of practice change;
 - (c) Ms Jude Addenbrooke regarding Freshwater Management/Sub-catchment Units; and
 - (d) Kim Hardy regarding planning.

4. PRACTICE CHANGE

- 4.1 Miraka considers that emphasis should be placed on Practice Change to reduce the loss of all four contaminants and improve water quality during the first 10 years of Plan Change 1. This has a number of implications for several aspects of Plan Change 1 which are addressed across a number of hearing topics (B5 – FMUs, Sub-Catchments and Tables), Block 2 (C1 – Diffuse discharge management; C6 – Schemes) and Block 3 (C8 – Sub-Catchment Planning; C9 – Farm Environment Plans). By way of overview those implications are:
- (a) New Freshwater Management/Sub-catchment Unit boundaries need to be established to provide more homogeneous physical attributes and community connectedness;
 - (b) Agreed Good Management Practices and evolving Farm Environment Plans for all farms will be important elements in implementing Plan Change 1; and
 - (c) Monitoring of impacts and feed back to land managers needs to be more robust in order to strengthen confidence to implement practice change.
- 4.2 Policies in Plan Change 1 need to enable and encourage incentives to change.
- 4.3 An emphasis on practice change during Stage 1 provides an effective platform to address longer-term challenges of contaminant and land use changes during Stage 2. A “settling in” period during Stage 1 will allow land managers, communities and policy makers to be better informed, better resourced and better prepared and able to adapt for the significant changes that will ultimately be required.
- 4.4 The underpinning expectation of Plan Change 1 is that change of practices on farm will lead to significant reductions in contaminant loss into the Waikato and Waipa rivers (Doole et al).¹ Miraka therefore contends that the provisions being developed for Plan Change 1 must be enabling and help facilitate practice change on all farms in the two catchments. The development and the implementation of Plan Change 1 needs to look through the lens of a Practice Change Framework as outlined by Dr Paine, rather than just rules and planning provisions. In this respect the implementation of Plan Change 1 needs to be closely considered.
- 4.5 It is important to highlight that practice change on farm needs to be supported by processes that are adaptive and by communities that are cohesive and collaborative. Farmers need to understand the reasons for and the mechanisms of change; to be

¹ Doole G. et al (2016) Simulation of the proposed policy mix for the Healthy Rivers Wai Ora process. Report HR/TLG/2016-17/4.5

positively motivated to change; and to be confident that change is leading to mutual benefit.

- 4.6 This collaborative approach aligns well with the values and principles that underpin the Vision and Strategy of Healthy Rivers Wai Ora. Mahitahi is a key value that guides community understanding, ownership and collaboration. As stated in Implementation method 3.11.4.1 of Plan Change 1, working together will be critical to the restoration and protection of the Waikato and Waipa rivers for current and future generations.

Practice change and sub-catchment management

- 4.7 The evidence of Ms Addenbrooke will outline the problems with the proposed scale of FMUs and Miraka's proposed new Freshwater Management/Sub-catchment Units. Practice change will only be effective if it is supported by the appropriate sub-catchment management structures and boundaries.
- 4.8 The establishment of effective catchment boundaries and management units will be critical to improving water quality as this will determine:
- (a) Clearly defined freshwater targets;
 - (b) Community ownership of targets and necessary changes in farm practice;
 - (c) Robust monitoring and auditing of practice changes and water quality; and
 - (d) Responsiveness of land users, communities and policy makers to on-going learning.
- 4.9 Practice change at an FMU/sub-catchment level is a community endeavour and success will require people to combine their skills and strategies for mutual benefit. This can only be achieved under conditions of mutual respect, trust in the intent of others and an acknowledgement of co-dependence. Experiences in the Lake Rerewhakaaitu sub-catchment found that successful change was achieved when farmers knew each other (ie: sub-catchment boundaries align with community identity) and they had time and processes to develop trust with other stakeholders. Community identification and cohesion will be critical to achieving the objectives of Healthy Rivers. Importantly, FMUs are more than a hydrological issue or a reporting requirement.
- 4.10 It is also important that Plan Change 1 policies are not inequitable and do not unwittingly generate blame between sectors and individuals. Community cohesion and trust must not be undermined by policy.

- 4.11 Miraka supports the development of sub-catchment management plans as indicated in Implementation method 3.11.4.5 of Plan Change 1. However, such plans should be mandatory for all sub-catchment units, and not at the discretion of Council. These plans will need to identify priority issues, set targets, determine appropriate mitigations and outline monitoring and feedback processes. They will need to provide a focus point for community discussions and will be important in supporting practice change. The role of Waikato Regional Council in negotiating these freshwater targets with the community; in undertaking robust monitoring; and participating in feedback loops needs to be explicitly stated in the implementation method 3.11.4 of Plan Change 1. These actions need to be seen as an enabling role, rather than a compliance role. All these aspects are important if effective practice change is to occur.

Practice change, Good Management Practice and Farm Environment Plans

- 4.12 Farming entities are the most effective unit for achieving change as this is where decisions on management practices are made. Therefore, Miraka is supportive of the emphasis that Schedule 1 of Plan Change 1 places on Good Management Practice (**GMP**) and Farm Environment Plans (**FEPs**). Miraka strongly advocates the implementation of GMP being embodied in all FEPs, not just those entities whose NRP requires it.
- 4.13 As Dr Paine indicated, agreement on GMPs provides the first step in the practice change process. When GMPs are contested, land users experience confusion and change will stall. Miraka's main concern with Schedule 1 of Plan Change 1 is that it is silent on GMPs relating to reductions in nitrogen losses. This issue will be covered in greater detail in my evidence in Blocks 2 and 3. Plan Change 1 currently relies on an allocation mechanism involving a Nitrogen Reference Point to reduce nitrogen contamination. Miraka opposes this approach and strongly advocates the use of GMPs to reduce nitrogen loss, as is the case with the other three contaminants. As indicated in Miraka's submission on Schedule 1, GMP guidelines for reducing nitrogen losses should be agreed and presented in Plan Change 1.
- 4.14 The Section 42A Report briefly discusses Good Management Practices (section B1.3.3, paragraphs 144-148). The report states that the Reporting Officers consider it has been difficult to reach agreement on GMP. This seems to be the reason why the Officers do not support the adoption of practice change as the key action for reducing nitrogen discharges in Stage 1.
- 4.15 Miraka considers the Officer's view on the limitations of GMP to be somewhat contradictory to the underpinning practice changes being specified in Plan Change 1

to reduce phosphorous, sediment and *E. coli* contamination. They are all about changing practice. Evidence will be provided in the Hearing for Topic C1 that there are many proven changes in farm practice that will reduce nitrogen losses.

- 4.16 Miraka supports the Good Farming Practice guidelines that have been recently developed by the Pan Sector Governance Group and encourages Plan Change 1 to adopt their use in the short term. This support is conditional on the recognition that these GFP guidelines will evolve as new learning and technologies emerge from research and experience. Where agreement cannot be reached, Miraka advocates the use of National Freshwater Standards in Plan Change 1. As an example, this approach would resolve the current disagreement around hill slopes and stock exclusion that is covered in Schedule C of Plan Change 1.
- 4.17 Where it is clear that general Good Management Practices will be inadequate to achieve significant reductions of contaminants to meet sub-catchment targets, Miraka supports the need for more stringent best practices and mitigations to be specified in a FEP. Miraka also supports the approach that FEPs are seen as living documents which can be updated to accommodate the emergence of new knowledge and technologies. It is important that rules are not structured in such a way that inhibit this evolution.
- 4.18 The different approaches that agricultural sectors take to support farmers will need to be recognised and accommodated within an FMU/Sub-catchment if there is to be a cohesive response to the agreed water quality targets. While Implementation method 3.11.4.1 of Plan Change 1 notes that working with others is important, Plan Change 1 is silent on how this cohesion will be achieved.

Practice change and implementation of Plan Change 1

- 4.19 Objectives can be clear, targets can be set, plans can be complete and skills/tools can be available, but change may not necessarily occur. Often when practice change initiatives fail, it is because confidence to change and motivation to change has been overlooked. People need to feel confident that the changes being required are actually achieving the desired outcomes. Ultimately, confidence to change is all about the balance between real benefits and costs and the perceived risks associated with the change. 3.11.4 Implementation methods of Plan Change 1 is weak on this critical part of the change process and Section 42A is silent on this topic.
- 4.20 In the context of Plan Change 1, an important action that will be needed to build and strengthen confidence is to monitor practice changes that have occurred on farm and to monitor the impacts on water quality and the farming system. These data and

information then need to be provided to land managers to signal whether the changes have been worthwhile (or not) and to guide any necessary changes in their FEPs. Plan Change 1 details the monitoring that Waikato Regional Council will be required to undertake for future allocation (3.4.11.7) and accounting (3.4.11.10) purposes. This is not adequate and amendments to these provisions are required to ensure there is robust and effective feedback to land users who have had to make changes to their farming system and business. Miraka's relief sought in relation to these provisions will be detailed in the later Hearings Blocks.

- 4.21 Motivation to change is all about the balance between incentives and disincentives. Miraka is supportive of the concept of Certified Industry Schemes as proposed in Implementation method 3.11.4.2 and Schedule 2 of Plan Change 1, particularly where economic incentives can reward practices that are consistent with Healthy Rivers outcomes. In this respect I support Dr Paine's view in paragraph 8.1 and 8.2 that a change in practice is more likely to occur when market signals offer new possibilities for the farm business.
- 4.22 The role of Certified Industry Schemes and monitoring will be covered in more detail when the Hearing addresses Schemes and Farm Environment Plans in Block 2 (C6) and 3 (C9). Miraka will provide additional evidence and proposed text changes to the Plan at that stage.
- 4.23 Miraka recognises that issues such as inequality in power relations; behaviours that undermine the development of trust between and within communities; or conflicting worldviews and values can negate the best efforts to achieve change. Even when some changes are achieved in the short term, these are rarely locked in for the long term if trust issues are left unresolved. Plan Change 1 needs to specify the processes and responsibilities that will resolve these conflicts. It is in these circumstances that the rules and regulations need to be in place to deal with recidivists and non-compliance.

5. CONCLUSION

- 5.1 In my view the current version of Plan Change 1 does not adequately utilise Practice Change and a series of amendments will be required in order for it to do so. The details of those amendments will be provided in the evidence of Ms Hardy and in later Hearing Blocks.

Dr Gavin Sheath

15 February 2019