

**BEFORE THE INDEPENDENT HEARING COMMISSIONERS ON BEHALF OF THE NORTHLAND
REGIONAL COUNCIL (NRC)**

Under: the Resource Management Act 1991

In the matter of: 24 applications for new and increased groundwater takes from the Aupōuri Aquifer subzones: Waihopo, Houhora, Motutangi, Paparoe, Sweetwater, Ahipara and Other

Applicants: Te Aupōuri Commercial Development Ltd, Waikopu Avocados Ltd, Henderson Bay Avocados Ltd, Far North Avocados Ltd, P McLaughlin, NE Evans Trust & WJ Evans & J Evans, P & G Enterprises (PJ & GW Marchant), MP Doody & DM Wedding, A Matthews, SE & LA Blucher, NA Bryan Estate, SG Bryan, CL Bryan, KY Bryan Valadares & D Bryan (Property No 1), MV Evans (Property No 2), MV Evans (Property No 1), Tuscany Valley Avocados Ltd (M Bellette), NA Bryan Estate, SG Bryan, CL Bryan, KY Bryan Valadares & D Bryan (Property No 2), Avokaha Ltd (c/- K Paterson & A Nicholson), KSL Ltd (c/- S Shine), Tiri Avocados Ltd, Valic NZ Ltd, Wataview Orchards (Green Charteris Family Trust), Mate Yelavich & Co Ltd, Robert Paul Campbell Trust, Elbury Holdings Ltd (c/- KJ & FG King), Te Rarawa Farming Ltd and Te Make Farms Ltd

SUPPLEMENTARY S42A REPORT

Stephanie Kane & Brydon Hughes

Date: 31 August 2020

1 PURPOSE

1. The purpose of this supplementary s42A report is as follows:
 - a. To provide a summary of the pre-circulated s42A report;
 - b. To address key matters raised by the Applicants and submitters through the pre-circulated evidence; and
 - c. To give a further recommendation as to whether consent should be granted.

2 SUMMARY OF S42A REPORT

2. The s42A report addressed 24 applications for new groundwater takes from the deep shell bed aquifer of the Aupōuri Peninsula to enable irrigation of avocado orchards (existing and proposed) and horticultural/cropping activities at multiple locations between Ngataki and Ahipara. Five of the applications have been lodged by existing consent holders seeking increased volumes of water in addition to their existing consented takes. The s42A report includes a technical review of the model used by the Applicants along with a technical assessment of the potential effects associated with the 24 applications.
3. The 24 applications were received by Council between February 2018 and August 2019. Each application was accompanied by an individual Assessment of Environmental Effects (AEE). However, during (and subsequent to) the period over which the applications were received, the methodology used to assess potential effects on the environment evolved, with greater emphasis placed on potential cumulative effects of the combined applications assessed using a regional-scale numerical groundwater model. This model itself underwent several revisions to incorporate additional environmental monitoring data and refine the assessment methodology to provide a final consolidated assessment of all applications.
4. Mr Hughes undertook technical peer reviews on the individual AEEs supporting 20 of the 24 applications. Applications for which individual peer reviews of AEEs were not completed include APP.040919.01.01 (CL Bryan, KY Bryan Valadares & D Bryan (Property No 1)), APP.040918 (NA Bryan Estate, SG Bryan, CL Bryan, KY Bryan Valadares & D Bryan (Property No 2)), APP.008647.01.06 (Avokaha Ltd) and APP.09628.01.02 (KSL Ltd). Subsequent to these applications being lodged, Council entered a series of discussions with the applicant's consultant regarding the scope and nature of cumulative effects assessment, which ultimately resulted in a revised regional scale model, as well as refinements to the assessment methodology used in the respective AEEs.
5. The review of the AEE's for the applications listed in Paragraph 4 was subsequently undertaken as part of the final assessment of all the applications in the applicant's revised regional scale model. This assessment included an evaluation of the cumulative effects of all existing and proposed groundwater takes across the entire Aupouri Aquifer Groundwater Model (AAGM) domain against a no-abstraction (naturalised) scenario. This process allowed for identification of any localised effects of cumulative (existing and proposed) abstraction in the vicinity of individual takes that would exceed thresholds for more than minor effects, thus providing a more conservative assessment of each individual

application than what was provided in the original AEEs which did not reference the 'naturalised' scenario.

6. Submissions were received from 113 potentially affected parties, including:
 - The Department of Conservation;
 - Mana Whenua, iwi and hapū representatives and groups:
 - Waiora Marae;
 - Ngāti Kurī Trust Board/Te Manawa o Ngāti Kurī; and
 - Mr Albert Burgoyne – Ngāti Kurī Taumatua Research Unit;
 - Far North District Council; and
 - 108 general submissions from property owners/occupier and water users, including the Ministry of Education and the NZ Fire Service.
7. The submissions received addressed a broad range of issues, including but not limited to:
 - Potential well interference effects from groundwater drawdown;
 - Risks of saline intrusion into the aquifer;
 - Reduction in surface water baseflows and water quality concerns;
 - Perceived lack of consultation and impacts on community aspirations;
 - Impacts on sensitive ecological and natural environments; and
 - Adverse effects on the overall sustainability of the groundwater resource, particularly in relation to the effects of climate change.
8. Late submissions were accepted, and matters raised have been addressed in the s42A report both by the reporting Planner and the Technical Expert, where relevant. A number of the matters raised by submitters were deemed to be irrelevant and/or outside the scope of the RMA process, and are unable to be considered further as to do so would be ultra vires and outside the Council's roles and responsibilities under the Act.
9. The assessment of effects in the s42A report was informed by the technical review and assessment, and included a range of potential effects, including:
 - The adequacy of the Applicants' assessment
 - Whether the proposals constitute reasonable and efficient use of water;
 - Effects from groundwater drawdown;
 - Effects on aquifer sustainability;

- Effects on surface water;
 - Effects on existing and other groundwater users;
 - Potential risks of saline intrusion;
 - Other water quality effects;
 - Land subsidence;
 - Social, economic and community effects;
 - Cultural and archaeological heritage effects;
 - Ecological and natural character effects; and
 - Consideration of climate change.
10. The assessment took into account the proposed adaptive management regime and the precautionary approach on which the proposed draft conditions and framework GMCPs were based. Whilst there is an inherent level of uncertainty in using predictive modelling, it is acknowledged that the Applicants' model utilises the best available data and applies a generally conservative approach to modelling effects. Based on the available data and using the most recent monitoring results available to validate the modelled predictions, it was concluded that the overall effects of the proposed groundwater abstractions would be less than minor.
 11. The Applicants have indicated a willingness to pursue an adaptive management regime and conditions of consent similar to those imposed on the MWWUG consents. Based on pre-hearing discussions with the Applicants' agent, the s42A report included splitting the management and monitoring of the consents (if granted) into three geographic groups: the Northern group (located approximately between Ngataki and Houhora Heads), the Middle group (located approximately between Houhora Heads and Paparore), and the South-western group (located around Sweetwater and Ahipara). A set of draft proposed conditions was provided for each group along with a draft GMCP for each group.
 12. To consolidate the management of groundwater takes within the wider Motutangi-Waiharara area, it is proposed that the new Middle group takes (if granted) be combined with the existing MWWUG consents in a single overarching GMCP. The approach suggested in the s42A report would enable consistent management and monitoring of effects, particularly in relation to potential impacts on the Kaimaumau Wetland, without derogating from the rights of the MWWUG consent holders in a manner consistent with the first in, first served approach to water allocation under the RMA.
 13. Mr Hughes suggested the provision of several new sentinel bores to monitor groundwater levels and salinity indicators in representative locations. The recommended monitoring requirements have been developed to align with the adaptive management philosophy and enable efficient and timely data capture and measurement against established trigger levels.

14. The s42A report included an assessment of the proposals against the relevant statutory and non-statutory matters, in accordance with s104(1)(b) and s104(1)(c) of the RMA. The relevant planning documents considered were:
- National Policy Statement for Freshwater Management 2014 (updated 2017);
 - New Zealand Coastal Policy Statement;
 - Regional Policy Statement for Northland;
 - Proposed Regional Plan for Northland;
 - Regional Water and Soil Plan for Northland;
 - Pukenui-Houhora Community Development Plan;
 - Ngā Tai e Rua o Te Aupōuri, Environmental Management Plan;
 - Te Iwi o Ngāi Takoto Environmental Plan; and
 - Ahipara Takiwā Management Plan.
15. The assessment concluded that the proposals are not contrary to the relevant objectives and policies of the abovementioned documents. The proposed management regime will enable significant adverse effects on the coastal environment and the Kaimaumau Wetland to be avoided, and other adverse effects to be minimised and mitigated through the setting of trigger levels and imposition of conditions requiring mitigative action in the event that these are exceeded. The proposals align with the allocation limits specified in the Proposed Regional Plan for Northland and will enable regional economic and employment growth whilst maintaining the sustainability of the groundwater resource.
16. The recommendation of the s42A report is that the applications for consent are granted, subject to conditions consistent with the proposed framework for adaptive management, including appropriate GMCPs. The recommended duration of consent for the proposed takes is 13 years, to align with the expiry date of the existing MWWUG consents to enable a comprehensive review of consents and groundwater allocation and management within the Aupōuri Aquifer.

3 MATTERS ARISING FROM EVIDENCE

17. Matters raised in the pre-circulated evidence submitted on behalf of the Applicants, the Director-General of Conservation, and the Ministry of Education are discussed in subsequent sections of this supplementary report, as follows:
- 2.1 General matters for clarification
 - 2.2 Iwi Environmental Management Plans
 - 2.3 Proposed staging allocation volumes

2.4 Statutory planning documents

2.5 Additional monitoring proposed

2.6 Dune lakes, wetlands and surface water

18. This supplementary report has been prepared by the same reporting officers who prepared the primary s42A report. With the exception of the information provided through pre-circulation of evidence, no additional information from the Applicants or any submitters has been provided.

2.1 General matters for clarification

19. The evidence by Ms Letica on behalf of the Applicants notes an error in the s42A report where it recommends that a proposed draft condition is included requiring the surrender of existing consents¹.
20. Ms Letica points out that the consents sought by Waikopu Avocados Ltd (APP.040610.01.01) and Henderson Bay Avocados Ltd (APP.017428.02.01) are new consents to support an increase to their existing orchard areas, and that the applications are not seeking to replace their existing consents. I accept this and note that the preferred staging volumes stipulated in the proposed GMCP for both of these applications reflect only the increase volume, rather than the cumulative volumes for each of the two Applicants. As such, the proposed conditions and GMCP will only relate to the two new consents (if granted), which will sit alongside the takes already authorised and subject to separate conditions. Therefore, the existing consents do not need to be surrendered and this can be addressed through revision of the proposed conditions.
21. Ms Letica also points out that the applications submitted by Avokaha Ltd (APP.008647.01.06) and KSL Ltd (APP.039628.01.04) are for changes to existing conditions of consent, being the volume of water authorised for take. I acknowledge that surrender of consent is not applicable in the case of a variation, and this can be addressed through revision of the proposed conditions. However, despite these two applications being made under s127 of the Act, they are included in the consideration of the bundled applications and, if granted, should be subject to the same conditions and adaptive management regime, regardless of whether they are a new application or a variation.

2.2 Proposed staging allocation volumes

22. As per of her evidence, Ms Letica has provided proposed staging allocation volumes for each of the applications in the relevant proposed GMCPs. These proposed volumes reflect the staged implementation that underpins the adaptive management regime and allows for continual monitoring of potential effects as the take volumes are progressively increased over time².

¹ at paragraph 267

² Subject to review through the Staged Implementation Monitoring Programme Review (SIMPR) process

23. The majority of the new applications (i.e. not increases, replacements or additional consents to existing takes) are staged following a 25% - 50% - 75% - 100% methodology, which is broadly consistent with the way in which the Motutangi-Waiharara Water User Group (MWWUG) consents were staged. Those applications that deviate from this methodology either have established orchards that require additional water for irrigation beyond the volume already consented and/or are for irrigation of mixed crops and pasture. I acknowledge and accept the differences in the proposed staging allocation volumes for these applications, and generally support the staging as proposed by Ms Letica.
24. Council considers that the proposed staging volume are appropriate to enable identification, management, and if necessary, mitigation, of effects on the environment through the adaptive management process outlined in the respective Groundwater Monitoring and Contingency Plans (GCMPs). The only exception is for APP.008647.01.06 (Avokaha Ltd) where a minor reduction in the total allocation volumes is recommended to align with the methodology utilised for the remaining applications.

2.3 Iwi Environmental Management Plans

25. At Annexure A to her evidence, Ms Letica included assessments of the proposals against the available Iwi Environmental Management Plans, which have been approved by the relevant Iwi Authority for the purposes of assessing these applications³. The Iwi Environmental Management Plans assessed include:
 - a. *Ngā Tai e Rua o Te Aupōuri, Environmental Management Plan* – Te Rūnanga Nui o Te Aupōuri;
 - b. *Te Iwi o Ngāi Takoto Environmental Management Plan* – Te Rūnanga o Ngāi Takoto; and
 - c. *Te Rarawa and Ahipara Takiwā Management Plan* – assessment prepared by Tui Qauqau Te Paa.
26. The assessments are comprehensive and consider the range of eco-cultural values and principles expressed by Mana Whenua. The relevant objectives and policies have been subject to careful consideration, and the assessments are useful in the absence of a Cultural Values Assessment or Cultural Impact Assessment for demonstrating how the proposals are cognisant of Mana Whenua issues. I generally support the conclusions drawn in the assessments of the proposals against the relevant Iwi Environmental Management Plans.

2.4 Statutory planning documents

27. In his evidence on behalf of the Director-General of Conservation, Mr Christie notes the relevance of the National Policy Statement for Freshwater Management 2020 (the NPS) and the National Environmental Standards for Freshwater (the NES), which come into force on 3 September. I agree that it is appropriate to consider the relevant provisions of these

³ Approval has been given on the basis that the assessments do not constitute Cultural Impact Assessments

documents in relation to the applications, and I have done so in the following paragraphs of this supplementary report.

28. The objective of the NPS focuses on ensuring that the management of natural and physical resources is undertaken in a way that prioritises:
- a. First, the health and well-being of water bodies and freshwater ecosystems*
 - b. Second, the health needs of people (such as drinking water)*
 - c. Third, the ability of people and communities to provide for their social, economic and cultural well-being, now and in the future.*

The relevant policies include:

- Giving effect to Te Mana o te Wai (Policy 1);
 - Integrated management of freshwater that considers effects on a whole-of-catchment basis (Policy 3);
 - Avoiding further loss of and protecting the values of inland wetlands (Policy 6);
 - Avoiding the loss of river extent and values to the extent practicable (Policy 7);
 - Protecting the significant values of outstanding water bodies (Policy 8) and the habitats of indigenous freshwater species (Policy 9)
 - Efficient allocation and use of freshwater (Policy 11);
 - Systematic monitoring of the condition of freshwater bodies and ecosystems (Policy 13) and reporting of information about the state of freshwater bodies and ecosystems (Policy 14); and
 - Enabling communities to provide for their social, economic, and cultural wellbeing in a manner consistent with the NPS (Policy 15).
29. Based on the assessments undertaken and the modelled predicted effects, I consider that the proposals are broadly consistent with the relevant objective and policies of the NPS. The effects assessments provided by the Applicants and the review undertaken by Mr Hughes indicate that the likely level of effects on the groundwater resource and surface water bodies within the modelled area of effects is less than minor. Whilst it is acknowledged that there is inherent uncertainty in the assessment due to its use of modelled predictions, the monitoring and management regime proposed provides a robust safeguard against the eventuality of unacceptable adverse effects on the aquifer, which will in turn avoid or minimise effects on other waterbodies such as streams, lakes and wetlands. The adaptive management regime puts the health and sustainability of the aquifer at the forefront, whilst requiring efficiency of use and allocation and mitigative action by water users in the event that monitoring indicates any deviation of effects beyond that modelled and anticipated as a result of the exercise of the consents (if

granted) in accordance with the conditions and GMCPs. On this basis, I do not consider the proposals to be inconsistent with the objectives and policies of the NPS.

30. The NES specifies activities that require consent in relation to natural wetlands, including taking of water from within a 100m setback from a natural wetland, and identifies the taking of water from within a natural wetland where it “results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland...” as a prohibited activity. Further information is necessary to determine whether any of the proposed takes are within 100m of a natural wetland. However, based on the modelled predictions, it is not anticipated that there will be adverse effects tantamount to the draining of part or all of a natural wetland as a result of the activities (if consent is granted).
31. In his evidence, Mr Christie suggests that the Proposed Regional Plan for Northland (pRPN) should be given significant weight, as opposed to the Regional Water and Soil Plan (RWSP). I accept Mr Christie’s statement in regard to the status of the pRPN but note that some of the applications have been submitted more than two years ago, when the process for making the pRPN fully operative was less advanced. I do not consider that the weight given to the pRPN has been inadequate and draw attention to the use of the allocation limits for the Aupōuri Aquifer as specified in the pRPN, which have underpinned the assessment of the proposals.
32. With regard to Mr Christie’s assertion that existing regional consents do not form part of the “existing environment”, I note the point established in *Ngati Rangī* [2016] NZHC 2948 that not all regional consents are not granted in perpetuity, so the existing consented groundwater takes should thus be excluded from consideration as part of the “existing environment”. The cumulative effects of the proposals have been considered in relation to both the receiving environment (including those activities authorised by existing consents) and a no-pumping baseline scenario that essentially takes the modelled area of effects back to naturalised conditions.

2.5 Additional monitoring proposed

33. Mr Alexander, in his evidence on behalf of the Ministry of Education, recommends additional monitoring to determine effects on the bores within the shallow aquifer at Ngataki School and Waiharara School. Mr Hughes notes that the assessment was undertaken based on the assumption that all bores were screened in the shellbed (the deep aquifer) so experienced maximum drawdown, which means that the modelled predictions likely overestimate drawdown in shallow bores, including most of the school bores. Mr Hughes agrees that, whilst the likelihood of adverse effects in these bores is significantly reduced by the location of the nearest pumping bores being over 1 km away and at least one of the two nearest bores will draw from the fractured basalt beneath the shellbed, monitoring of water levels in the two school bores is not unreasonable and may assist in providing helpful background information.
34. Mr Alexander also recommends saline intrusion monitoring at Ahipara School. Mr Hughes notes that the Ahipara School bores are shallow and located almost 3.5 km south of the nearest proposed take, and that existing baseline monitoring on Sweetwater Station shows groundwater levels in the shallow aquifer are unaffected by pumping from the shellbed.

Whilst the monitoring of water quality within the school bores would be a good idea, Mr Hughes is not convinced that imposing such additional monitoring on the Applicants on the basis of potential effects associated with these applications is reasonable.

35. The respective GCMPs detail a process whereby a Groundwater Trigger Exceedance Report (GTER) will be prepared in the event groundwater level or quality triggers are exceeded. A GTER will specify actions to be undertaken by consent holders to mitigate adverse effects and return the condition of the resource to below the relevant trigger levels. In the case of a TL2 exceedance, a GTER may include a requirement for consent holders to provide *".....temporary water supplies to any affected parties in the event that chloride concentrations exceed 250 mg/L (based on NZ Drinking Water Standards)."* Mr Alexander seeks additional wording added to this provision to specify that Consent Holders *"...should immediately provide temporary water supplies to the school until a **permanent** alternative source of water for the affected school can be provided at the consent holder's expense"*.
36. Council considers the existing wording of the GCMPs in relation to provision of temporary water supplies is appropriate given that targeted monitoring of the aquifer system is intended to enable any changes in groundwater quality to be identified well in advance of the specified threshold being reached in any bore used for potable supply. In addition, the wording of the existing GCMP provides flexibility for Council to manage any such trigger level exceedance in accordance with the specific circumstances associated with such an event. While this could include provision of an alternative source, other considerations and options may be relevant to a given trigger level exceedance.
37. Mr Baker, in his evidence on behalf of the Director-General of Conservation, recommends that a condition requiring aquifer testing is included in the consents, if granted. Mr Hughes supports this recommendation, and I agree that a condition to this effect can be added through revision of the proposed conditions.

2.6 Monitoring of dune lakes

38. Much of the evidence provided on behalf of the Director-General of Conservation references dune lakes and significant surface water bodies. Mr Baker notes that it is not clear at this stage whether there are additional surface water bodies that should be added to the GMCPs for specific monitoring.
39. Council staff have advised that, at present, 27 lakes within Northland are actively monitored. In the Far North, lake level sensors were installed in the following lakes during 2017 and 2018:
 - Waiparera
 - Waihopo
 - Te Kahika
 - Waipara
 - Morehereru

- Wahakari
- Rotokawau
- Waiporohita
- Ngatu
- Heather
- Carrot
- Ngakapua South (also covers Ngakapua North)
- Rotoroa

Data from these sensors is recorded at least quarterly and downloaded into NRC's database. The lake level data collected could be used to monitor any effects on water levels as a result of drawdown from proposed pumping if consents are granted. It is noted though that Council is currently undertaking a review of the lake monitoring network and there is the possibility that the number of lakes monitored will be reduced. Which lakes will remain in the monitoring network is yet to be determined.

4 CONCLUSION AND RECOMMENDATION

40. Mr Hughes and I have read the evidence provided by the Applicants and submitters and have provided clarification and addressed some of the issues raised in this supplementary report. I do not consider that any of the matters covered in pre-circulated evidence are sufficiently significant to change our initial assessment of the potential adverse effects of the proposals. However, I do acknowledge that there is scope for additional refinement of the proposed conditions and the details of the proposed GMCPs – particularly in relation to monitoring – that would assist in providing further certainty and/or a more robust precautionary approach to the management of risks that adverse effects may occur. It is anticipated that these matters will be discussed further during the course of the hearing.
41. It is therefore recommended that the applications for consent are granted, subject to revised conditions and GMCPs.