

**BEFORE THE HEARING COMMISSIONERS
AT GREATER WELLINGTON REGIONAL COUNCIL**

IN THE MATTER of the Resource Management Act 1991 (“**the Act**”)

AND

IN THE MATTER of the Proposed Natural Resources Plan for
the Wellington Region

Hearing Stream Three:
Water Allocation

**STATEMENT OF EVIDENCE BY LYNETTE PEARL WHARFE
FOR HORTICULTURE NEW ZEALAND
23 AUGUST 2017**

1. QUALIFICATIONS AND EXPERIENCE

- 1.1 My name is Lynette Pearl Wharfe. I am a planning consultant with The AgriBusiness Group. I have a BA in Social Sciences and post graduate papers in Environmental Studies, including Environmental Law, Resource Economics and Resource Management.
- 1.2 I am an accredited commissioner under the Making Good Decisions programme with Ministry for the Environment.
- 1.3 I have been a consultant with The AgriBusiness Group since 2002. The Agribusiness Group was established in 2001 to help build business capability in the primary sector.
- 1.4 I have spent over 18 years as a consultant, primarily to the agricultural industry and rural sector, specialising in resource management, environmental issues, and environmental education and facilitation, including 17 years of providing advice to Horticulture New Zealand (“**HortNZ**”) and its precursor organisations NZ Vegetable and Potato Growers Federation, NZ Fruitgrowers Federation.
- 1.5 Some of the projects I have been involved in that I consider are particularly relevant in this context are:
- (a) Project Manager and facilitator for a Sustainable Management Fund (“**SMF**”) Project ‘Reducing nitrate leaching to groundwater from winter vegetable crops’, to develop management tools for vegetable growers to implement best practice for fertiliser applications, to assist in changing fertiliser usage.
 - (b) Managed an SMF project for NZ Agrichemical Education Trust communicating the revised NZS 8409:2004 Management of Agrichemicals to local authorities throughout NZ, including development and leading workshops with councils.
 - (c) Revised the Manual for the Introductory GROWSAFE® Course for the NZ Agrichemical Education Trust, to make the Manual more user friendly and accessible and to align it with the Hazardous Substances and New Organisms legislation.
 - (d) Managing the research component for SFF project – SAMSN – developing a framework for the development of Sustainable Management Systems for agriculture and horticulture.
 - (e) Project Manager MAF Operational Research Project Effectiveness of Codes of Practice investigating the use of codes of practice in the agriculture and horticulture sectors.
 - (f) Undertook a review of Current Industry and Regional Programmes aimed at reducing pesticide risk, including assessing a number of Codes of Practice.
 - (g) Contributed as a project team member for a Sustainable Farming Fund project ‘Environmental best practice in agricultural and rural aviation’ that

included developing a Guidance Note on agricultural aviation, which is now on the Quality Planning website.

- (h) Undertook a review of agrichemical provisions in the Auckland Regional Air Land and Water Plan and developed a risk based response for inclusion in the Proposed Auckland Unitary Plan.
- 1.6 I have been involved as a consultant to HortNZ on the Proposed Natural Resource Plan (PNRP) contributing to the submission and further submissions.
- 1.7 Documents that I have relied on in preparing this evidence include:
- (a) Section 42A Hearing Report Water Allocation 4 August 2017
 - (b) Technical evidence – Water allocation: Minimum flows and allocation, Mr M Thompson 7 August 2017
 - (c) Regional Policy Statement for the Wellington Region
 - (d) National Policy Statement for Freshwater Management 2014
- 1.8 I have read the Environment Court’s Code of Conduct for Expert Witnesses, and I agree to comply with it. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise, except where I state I am relying on what I have been told by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2. SCOPE OF EVIDENCE

- 2.1 This evidence provides a planning assessment of those provisions on which HortNZ submitted or made further submissions and addresses the Section 42A report for Hearing Stream Three prepared by the Council.
- 2.2 This evidence will follow the s42A Report format and address submissions and further submissions that are included in the following report sections:

Water allocation

- a) Issue 1: Giving effect to the NPS-FM
- b) Issue 2: Framework for allocation water
- c) Issue 3: Water use
- d) Issue 4: Aquifers, bores and dewatering
- e) Issue 5: Methods

3. MY UNDERSTANDING OF HORTICULTURE NEW ZEALAND’S SUBMISSIONS

- 3.1 The HortNZ submission and further submissions on the PNRP that are included in Hearing Stream 3 focus on:

- (a) Ensuring fair and equitable water allocation framework
 - (b) Provisions for root stock survival water in times of water shortages
 - (c) Provisions for permitted water takes
 - (d) Efficient allocation and use of water
- 3.2 Key matters of concern to HortNZ are ensuring that the provisions in the Plan are workable and practical, and ensuring that best practice is used when undertaking horticultural activities.

4. ISSUE 1 GIVING EFFECT TO THE NPS-FM

- 4.1 HortNZ is a further submitter on the submissions of Fish and Game that seeks that a range of provisions are amended to give effect to the NPS-FM.
- 4.2 The s42A Report addresses these submissions under Issue 1 Giving Effect to the NPS-FM Para 103 -131 and considers the extent to which the respective policies give effect to the NPS-FM.
- 4.3 The report also identifies that Council is intending to implement the NPS –FM in a progressive manner which will achieve the outcome sought by the submitter.
- 4.4 The pNRP establishes a framework to manage water takes until the NPS-FM is implemented.
- 4.5 Given that the implementation programme has been developed under the NPS-FM I consider that the approach that the Council has adopted is appropriate and therefore it is not necessary to require that the pNRP implement the NPS-FM as sought by the submitter.
- 4.6 Therefore I support the s42A Report recommendation in paras 130 and 131.

5. ISSUE 2 FRAMEWORK FOR ALLOCATING WATER

- 5.1 The s42A Report sets out how the overall allocation framework for the Plan will be work, particularly Policy P107 and the related policies.
- 5.2 HortNZ is a submitter or further submitter on P107, P111, P115, P113, P117, P118, Schedule R and Schedule Q. Also included in this section is the definition of MALF.

Definition of MALF

- 5.3 HortNZ made a further submission on the submission of Dairy NZ and Fonterra seeking a change of the definition of MALF.
- 5.4 The s42A Report considers that the definition of MALF should be amended as it does not accurately reflect how MALF is used in the proposed Plan.

- 5.5 However the definition that the report recommends introduces the concept of 'naturalised' MALF which is substantially different to both the notified definition and that sought by the submitters.
- 5.6 Currently the definition is: *The average of the lowest flows measured in each year of a full site record.*
- 5.7 Dairy NZ sought that it be: *The mean annual low flow 7D is the average of lowest daily flows recorded over a 7-day continual flow record, derived for a water year (July – June)*
- 5.8 The s42A Report recommends that the definition be changed to: *The naturalised average of the mean annual lowest flows measured in each year of a full site record with a duration of seven days.*
- 5.9 Without track changes: *The naturalised mean annual low flow with a duration of seven days.*
- 5.10 The s42a Report states that the MALF is referred to in Policy P113, the rules in the Whaitua chapters and a footnote for Tables 7.3, 8.3 and 10.3.
- 5.11 Only the Footnotes refer to 'natural' seven day mean annual low flow:
- This limit has been derived as a default based upon one of two rules; for rivers with a mean flow of greater than 5,000 litres/sec, the allocation amount is equal to 50% of the natural seven-day **mean annual low flow** (7d MALF) and for rivers with a mean flow of less than 5,000 litres/sec, the allocation limit is equal to 30% of the 7d MALF.*
- 5.12 Policy 113 Core allocation for rivers states that maximum allocation amounts for rivers will be established:
- a) *for rivers with mean flows of greater than 5m³/sec 50% of the mean annual low flow*
- b) *for rivers with mean flows of less than or equal to 5m³/sec 30% of the mean low annual flow*
- 5.13 Application of Policy P113 is dependent on the definition of MALF as notified.
- 5.14 While the footnotes refer to 'natural seven day mean annual low flow' it is questionable as to whether this overrides the policy which is based on mean annual low flow as defined in the Plan.
- 5.15 The application of MALF as defined in the pNRP is significantly different to the application of a naturalised MALF.
- 5.16 Referring to naturalised MALF requires measuring something that doesn't exist and hasn't existed for some time. Therefore it needs to be modelled or calculated.
- 5.17 The evidence of Mr Thompson (6.15) states that: 'Flow 'naturalisation' refers to the process of 'correcting' observed/ measured flow to account for alterations caused by upstream abstractions, diversions or discharges.'

- 5.18 Mr Thompsons's evidence notes that there are issues and potential errors with 'correcting' data to achieve a naturalised flow.
- 5.19 If a 'naturalised' MALF is to be used it needs to be clear what is the base point and how it is derived and how errors have been corrected.
- 5.20 In my opinion the pNRP did not clearly state that a naturalised MALF would be used. It is only the footnotes to tables in Whaitua Chapters that there was reference to it.
- 5.21 Therefore I do not consider that it is appropriate that a naturalised MALF should now be included in the definition.
- 5.22 In the absence of clarity in the Plan the definition of MALF should be retained or amended to retain the concept as notified with MALF as a measure of the 7 lowest flow days of a water year as sought by Dairy NZ and Fonterra.
- 5.23 Calculations of minimum flow need to be re-done to ensure that the correct data has been used to establish the MAF and the figures included in the Plan.

Issue 2.6 Permitted and controlled activities Pg 107

- 5.24 Issue 2.6 considers the permitted and controlled activity rules which provide for some water takes. Rule 136 relates to all surface water bodies and groundwater, Rule 137 relates to dairy shed washdown and cooling water. The section also clarifies the status of s14 (3) b) takes.
- 5.25 Rule 136 provides for small takes with a differential volume based on the size of the property. HortNZ considers that the differential regime is inequitable and sought that the provisions be amended to include provisions for horticultural properties less than 20ha to be able to take 20m³ a day as a permitted activity and 40m³ as a controlled activity (The s42A Report (Para 428) incorrectly states that HortNZ seeks 40m³ as a permitted activity).
- 5.26 The s42A Report rejects the HortNZ submissions by stating that if more water is required then consent can be applied for. There is no consideration of the inequities that the rule puts in place.
- 5.27 The s42A Report compares the amounts in the pNRP with a range of other plans. However the table demonstrates that most plans do not have a differential amount based on property size, and if they do, the size of property is significantly less than 20ha. For instance the Waikato rule has a threshold of 1ha.
- 5.28 If the comparison with other Councils is used to justify the pNRP volumes as appropriate then consideration should also be given the applicability of the property threshold.
- 5.29 Many horticultural properties are small but generate significant income off a small area. Yet they are unfairly penalised by a rule which gives greater priority of other agricultural users who operate on larger areas of land.

- 5.30 It is noted that Rule 137 gives specific provision for dairy shed washdown and cooling water as a permitted activity that far exceed the amounts in Rule 136. In addition the water in Rule 137 can be taken in addition to that in R136.
- 5.31 Many horticultural properties will have resource consents for taking water but there are uses for which small takes are needed, such as washing machinery, mixing agrichemical sprays and some produce washing for food safety and sanitary purposes.
- 5.32 HortNZ recognised that Council was concerned about the use of water on lifestyle type properties so rather than seeking a removal of the property size threshold HortNZ sought that the rule be amended to provide for 20m³ a day for horticultural properties of less than 20ha. Consequential changes were sought to the Controlled activity Rule. R141.
- 5.33 In my opinion the changes sought are fair and reasonable as they provide more equitably for all production land sectors, whereas the notified approach clearly establishes a priority for dairy farming. The potential effects on the water resource are limited as it is only horticultural properties that would be entitled to the water as a permitted activity.

6. ISSUE 3 WATER USE

Issue 3.1 Priorities for water use

- 6.1 The s42A Report under Issue 3.1 considers the priorities for water use and addresses Policy P111, Policy P112, Policy P114, Policy P115 and Schedule R.
- 6.2 HortNZ made submissions and further submissions on these provisions, including provisions for rootstock protection.
- 6.3 Policy P112 Priorities in times of drought and severe water shortage includes a priority for rootstock protection. HortNZ supported the provisions and sought that a definition for rootstock protection be included.
- 6.4 Policy P115 Authorising takes below minimum flows and lake levels provides for water for rootstock protection to be provided for below minimum flows. HortNZ sought that clause c) be amended to: Horticultural and viticultural root crops including perennial crops (excluding pasture species, animal fodder crops and maize for the sole purpose of avoiding their death).
- 6.5 The s42A Report is recommending significant changes to the framework to provide for rootstock protection by:
- (a) Deleting rootstock protection from Policy P112
 - (b) Amending Policy P115 c) to only apply only to applications for consent to replace the existing resource consent
 - (c) Adding reference to rootstock protection in Schedule R

- 6.6 In addition a definition for rootstock protection is not supported or changes as sought to P115 c).
- 6.7 The provisions in the pNRP were based on the Board of Inquiry for Tukituki. Extracts from that decision are attached as Appendix 1.
- 6.8 Provisions for rootstock protection are also included in the Tasman Resource Management Plan for the Waimea catchment.
- 6.9 The s32 Report set out the rationale for the inclusion of water for rootstock protection.
- 6.10 I note that the s32 Report identifies the need for inclusion in Policy P112 because of the linkage to water shortage directions. By deleting rootstock protection from Policy P112 has the effect of removing the ability for this matter to be included in the water shortage directions.
- 6.11 Therefore I do not support the deletion of rootstock protection from Policy P112.
- 6.12 The recommended amendments to Policy 115 c) are also not supported because it limits application for rootstock protection to existing resource consents. There is no indication in the s32 Report that the provisions should be limited in such a manner. Such a limitation does not provide for the social and economic wellbeing of the community as sought in Objective O8.
- 6.13 The s42A Report suggests that there are only eight current consents for which the provisions apply. Given that the rootstock includes horticulture and viticulture crops this seems a very low number. It would be useful to know the rationale for assessing the number of consents to which the provisions may apply.
- 6.14 Consideration should be able to be made at the time of assessing a consent application about the ability to provide for rootstock protection.
- 6.15 In addition HortNZ sought a definition for rootstock protection so it is clear which crops are covered by the provisions. The s42A Report does not consider that it is necessary as there is enough detail in Policy P115c) to understand the crops to which it applies.
- 6.16 I consider that the definition sought by HortNZ more accurately specifies the crops that are included as rootstock protection and so support the inclusion of a definition as sought by HortNZ.

Issue 3.2 Efficient allocation and use of water

- 6.17 The s42A Report on Issue 3.2 addresses Objective O52, Policy P118, Policy P119, Schedule Q, RDA rules in Waitua chapters and the definition of efficient allocation.
- 6.18 HortNZ made submissions and further submissions on these provisions.
- 6.19 The pNRP includes a definition for efficient allocation: includes economic, technical and dynamic efficiency. This is the definition in the NPS-FM.
- 6.20 HortNZ sought that the definition be amended to 'efficient allocation and use' as the terms are both used in the proposed Plan.

- 6.21 The s42A Report (Paras 536- 539) considers the submission but recommends that no change be made.
- 6.22 The s42A Report considers that efficient use is a subset of efficient allocation and that it incorporates technical and dynamic efficiency.
- 6.23 I do not agree that efficient use is a subset of efficient allocation and that it only includes technical and dynamic efficiency.
- 6.24 Objective B3 of the NPSFM seeks to improve and maximise efficient allocation and efficient use. The terms are used conjunctively, not as a hierarchy with one a subset of the other.
- 6.25 Objective 52 in the pNRP also uses together and lists the same policy methods to achieving both efficient allocation and use of water.
- 6.26 The s42A Report considers that the policy suite of P118, P119 and Schedule Q provide the necessary guidance as to what is 'efficient use'. In response to submissions on Schedule Q the report (e.g. Para 587) seems to equate 'efficient use' with 'optimal use'. While efficient use may provide 'optimal use' it is not necessarily the case as efficient use needs to take into account a range of factors.
- 6.27 Schedule Q and Policy 118 set out how 'efficient use' will be achieved, but do not actually articulate what 'efficient use' actually is.
- 6.28 Schedule Q applies an irrigation application efficiency of 80%. While that is the target for efficiency set in the Plan it does not necessarily mean that 80% efficiency is the optimal efficiency or use.
- 6.29 The response in the s42A Report does highlight the issue as to what does 'efficient use' actually mean when it is used in the Plan so that there is a clear understanding of what is intended when the term is used. Given the number of times that 'efficient use' is used in the Plan it is important that there is clarity and not rely on interpretation of the policies or Schedule Q.
- 6.30 I consider that efficient use means using the appropriate amount of water in the right place at the right time– that is technical efficiency as described in para 534 of the s42A Report.
- 6.31 Therefore I support inclusion of a definition for 'efficient use' to clarify that the term seeks to achieve technical efficiency in the use of water.

Objective O52

- 6.32 Objective 52 is a specific objective for water allocation that focuses on efficiency of allocation and that use of water is improved and maximised through time.
- 6.33 HortNZ sought that the objective also includes reference to reliability.
- 6.34 The s42A Report considers Objective O52 on Page 136.

- 6.35 The s42A Report rejects the submission to include reliability as it is considered that it is provided for in other objectives such as O6, O7 and O8 which are under Beneficial use and development.
- 6.36 Objective O6 relates to water for the health needs of people
- 6.37 Objective O7 refers to water for livestock.
- 6.38 Objective O8 relates to consideration of social economic, cultural and environment benefits of taking water and provided in the allocation framework.
- 6.39 None of them specifically refer to reliability of water supply or indicate that reliability of supply is an important consideration in the allocation framework.
- 6.40 Reliability of supply is an important consideration for the allocation framework, as demonstrated by the inclusion in Schedule Q as nine out of ten years, yet there is no clear policy framework that provides for that consideration.
- 6.41 The intent of the addition of reliability is not to increase the amount of water available for allocation, as assumed in the s42A Report (para 548), but rather to ensure that the allocation framework adequately considers the reliability of supply as part of determining appropriate allocation.
- 6.42 Therefore I consider that it is appropriate that the policy suite for efficient allocation and use include specific policy provision for reliability of supply.
- 6.43 The s42A Report (Para 590) notes that reliability is important for group and community water supplies but fails to acknowledge that it is also important to other water users.
- 6.44 HortNZ and other submitters sought that reliability be included in Objective O52 but it may be more appropriate that is included in another policy within the allocation framework.
- 6.45 I have looked at the policy framework and on balance consider that Objective O52 is the most appropriate location for inclusion of reliability.

Policy P118

- 6.46 Policy P118 sets out the framework for reasonable and efficient use of water and sets out a range of methods and considerations to achieve reasonable and efficient use.
- 6.47 HortNZ sought that an additional consideration be added to Policy P118 to provide recognition of the cost to replace existing systems.
- 6.48 The S42A Report (para 567- 569) rejects the submission while acknowledging that there will be a cost to users to upgrade their systems so that they meet efficiency criteria. The report focusses on 'tweaks' to the system to reduce leakage or greater application efficiency.
- 6.49 HortNZ was more concerned about large scale system changes that may be deemed necessary to achieve efficiency of use. In Para 587 of the report there is an

acknowledgment that there may be significant cost in improving efficiency but that such costs are appropriate.

- 6.50 For instance the upgrading from a water race system to other forms or reticulation would incur significant costs and this should be balanced against the needs to efficiency. Therefore I consider that it is appropriate that the potential cost of such upgrades be a matter for consideration in Policy P118.
- 6.51 The HortNZ wording sought is 'taking into account the cost of replacing existing systems'. Given that Objective O8 seeks that consideration of social economic, cultural and environment benefits of taking water are provided in the allocation framework it would be appropriate that the cost of replacing existing systems is taken into account in the allocation framework.
- 6.52 Therefore I support the addition of 'taking into account the cost of replacing existing systems' to Policy P118.
- 6.53 I am concerned about the application of Policy P118 a) and the period of four years. The s42A Report (para 569) states that it is not until a resource consent needs to be replace or renewed that this part of the policy will apply.
- 6.54 My concern is that some users may not need to replace their existing consents within four years of the Plan being made operative and so the clause is effectively enforcing an earlier renewal process.
- 6.55 It would be more efficient to require that Schedule Q applied when a replacement consent is being sought and remove the four year stipulation.

7. CONCLUSION

- 7.1 I have assessed the HortNZ submission points, the s42A Report responses and recommendations to provide a planning response to the identified issues. I have set out in the body of this evidence either support for the original submission by HortNZ or suggested alternative wording that addresses matters raised in the s42A Report.
- 7.2 I consider that the wording I have proposed will assist in achieving the outcomes sought in the RPS and the PNRP and assist to give effect to the NPSFM.

Lynette Wharfe

23 August 2017

Appendix 1: Provision for rootstock in PC 6 for the Tukituki catchment.

Horticulture NZ made submissions on PC 6 for the Tukituki catchment seeking water for rootstock protection. The matter was heard and considered by the Board of Inquiry into the Tukituki Catchment Proposal who accepted the rationale and need for such protection.

Below are some excerpts from the Decision and report:

[308] The Board does not have any difficulty with this objective as it now stands. There is ample evidence that the existing takes support significant investment. The Board also accepts that this is a legitimate consideration when managing the abstraction of surface water and the minimum flow regime. Rather than suggesting that the minimum flow regime can be breached, the objective recognises that there will be situations where some essential takes will need to be managed when minimum flows are reached, an example being rootstock and crop protection.

[591] Secondly, POL TT9 (l)(f)(iva) was introduced by HBRC during the inquiry process to satisfy concerns raised by many horticulturalists and orchardists. While they were pleased with the move to protect rootstock, some felt that it did not go far enough. Having considered those views the Board has decided that the clause as it now stands provides the necessary safety valve. We are also satisfied that it gives effect to the integrated management objectives and policies in the NPSFM.

[621] Three particular changes should be mentioned: First, provision for rootstock protection should mitigate the more extreme effects of the new water allocation regime.

[689] Dr Adolf Stroombergen gave evidence for Mr Apple. He quantified the economic losses that would arise from PC6 in its notified form, in particular minimum flows, seasonal water restrictions, and the absence of any provision for rootstock protection. Dr Stroombergen concluded that the financial viability of orcharding would be threatened although this might be ameliorated to some extent if PC6 was amended.

The policy that was included by the Board of Inquiry in the Plan Change is as follows:

POL TT9 IMPLEMENTING MINIMUM FLOW REGIME AND ALLOCATION LIMITS

(f) (iva) The taking of water authorised for the sole purpose of avoiding the death of horticultural or viticultural root stock or crops shall be allowed to occur to any extent allowed by conditions of consent as follows:

- 1. Water allocated for this purpose shall not exceed a cumulative instantaneous limit across all Surface Water Allocation Zones of 200 L/s;*
- 2. The water shall only be available five days (120 hours) after minimum flow cessation take restrictions are imposed and where no practicable alternative sources of water are available or accessible;*
- 3. Access to the water shall be provided as a first priority to the protection of the root stock of permanent horticulture such as orchards and viticulture; and*
- 4. Access to the water shall be provided as a second priority to the protection of crops (excluding pasture species, animal fodder crops and maize).*

The full decision and report can be found at:

<http://www.epa.govt.nz/Resource-management/NSP000028/FINAL%20Report%20and%20Decisions%20-%20Volume%201%20of%203%20-%20Report%2018%20June.pdf>