BEFORE THE HEARING COMMISSIONERS

IN THE MATTER	of the Resource Management Act 1991 ("**the Act**")
AND	
IN THE MATTER	of the Resource Management Act 1991 and the Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010
AND	
IN THE MATTER	of the hearing of submissions on the Variation 5 to the Proposed Land and Water Regional Plan

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STATEMENT OF EVIDENCE BY ANGELA PHYLLIS HALLIDAY FOR HORTICULTURE NEW ZEALAND

22 JULY 2016

ATKINS | HOLM | MAJUREY

Helen Atkins
PO Box 1585
Shortland Street
AUCKLAND 1140

Solicitor on the record Helen Atkins Helen.Atkins@ahmlaw.nz (09) 304 0421

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QUALIFICATIONS AND EXPERIENCE

1. My name is Angela Phyllis Halliday. I am the Advisor, Natural Resources and Environment with Horticulture New Zealand ("**Horticulture NZ**"). I have been in this role since April 2014. I was a member of the Product Development Group for the Matrix of Good Management Project and involved with development of the Industry Agreed Good Management Practices. I am currently a member of the OVERSEER Guidance Governance Group looking to develop guidance for the use of OVERSEER® in regional plans.

2. Previously I was in a compliance role at the Southland District Council which focused on Resource Management and Environmental Health. Prior to this I worked in an Economic Development Agency in Southland in a marketing based role and was a member of the Southland Conservation Board from 2006 – 2008.

3. I have qualifications in science (BSc) with a major in Zoology from Otago University and a graduate Diploma of Wildlife Management. I recently completed a Graduate Diploma of Environmental Health at Massey University. I am involved with District and Regional Council policy and planning processes throughout New Zealand in both the pre-plan collaborative process and post plan facilitation process.

4. In my role at Horticulture NZ I am responsible for implementing Horticulture NZ's wider resource management and research programme.

5. As a result of this role, my qualifications, and my previous experience, I consider that I have an understanding of farming systems and the impacts of water related policy decisions from both a farming/growing perspective and a from an environmental health/ecosystem health perspective. In this evidence I have tried to outline the issues regarding land and water resource management and primary production from an industry perspective in relation to Canterbury, and in particular the Hinds catchment.

BACKGROUND TO HORTICULTURE NEW ZEALAND AND ITS RMA INVOLVEMENT

6. Horticulture NZ was established on 1 December 2005, combining the New Zealand Vegetable and Potato

Growers' and New Zealand Fruitgrowers' and New Zealand Berryfruit Growers Federations.

7. On behalf of all active growers Horticulture NZ takes a detailed involvement in resource management planning processes as part of its national environmental policy. Horticulture NZ works to raise growers' awareness of the Resource Management Act 1991 ("**RMA**") to ensure effective grower involvement, whether in the planning process or through resource consent applications. The principles that Horticulture NZ considers in assessing the implementation of the RMA include:

   - The effects based purpose of the RMA;
   - The aim that non-regulatory methods should be employed by councils;
   - The aim that regulation should impact fairly on the whole community, make sense in practice, and be developed in full consultation with those affected by it;
   - Early consultation of land users in plan preparation; and
   - Ensuring that RMA plans work in the growers interests both in an environmental and economic production sense.

HORTICULTURE IN NEW ZEALAND

8. The sector represents 5600 growers producing around 110 crops (focused on producing food for people). Roughly $2.9 billion in domestic revenue is generated yearly, and another $3.2 billion of fresh on board value is produced for export.

9. The industry body is committed to continuous environmental improvement, and has spent significant resources on a good management practice program for growers, covering issues of significance to markets and regional councils, known as NZGAP.

10. Horticulture NZ manages issues that cover and affect the whole horticulture industry (excluding winegrowers and winemakers), and is currently active in 48 local and regional government plan processes throughout the country.

11. Many of the issues are common between plans, so Horticulture NZ also provides input to policy at the national level, focusing currently on matters that affect growers in District and Regional Planning processes.

12. Horticulture NZ is the umbrella organisation for 21 separate product groups covering 110 crops that are outlined in the Commodity Levies (Vegetables and Fruit) Order 2007. Product groups are also levy collecting organisations working on sector specific matters, in collaboration with Horticulture NZ working on industry specific matters. The two key vegetable product groups for the Canterbury region are the Process Vegetable Product group and the Fresh Vegetable Product Group (VegetablesNZ). These groups are significant contributors to our research efforts on nutrient management.

HORTICULTURE IN THE CANTERBURY REGION

13. With over 13,000 ha of vegetable production and 3,000 ha of fruit, Canterbury is the third largest horticultural sub region in New Zealand. It is particularly significant for vegetable production, with the main crops including onions, peas, potatoes, pumpkin, green beans, carrots and broccoli. There is also significant fruit production with the main crops being blackcurrants, berry crops, apples and grapes for wine production.

14. There are 497 registered vegetable growers in the Canterbury region, and 54 fruitgrowers.

15. Generally speaking the 2012 figures for the year ending 30 June indicate that Canterbury production was approximately 5700 ha of potatoes, 4100 ha of peas and beans, 1,000 ha of onions, 255 ha of sweetcorn, 323 ha of brassicas, 823 ha of carrots, 29 ha of asparagus, and 23 ha of lettuce. "Other" vegetable crops comprising 651 ha. The approximate total hectares planted for vegetable cropping in 2012 were around 13,048 ha.

THE SIGNIFICANCE OF CANTERBURY'S HORTICULTURAL PRODUCTION TO NEW ZEALAND HORTICULTURAL PRODUCTION

16. Horticultural production in New Zealand makes up roughly 8.3% of total fresh on board export value, with the main categories for export being in wine, kiwifruit and apples. Onions, other fresh vegetables and potatoes are also

significant contributors to a total export value in 2010 of over $3 billion. Equally important to note are the contributions to domestic food supply and domestic food production, with approximately the same value again from horticultural production in terms of domestic value ($2.9 billion). Canterbury domestic vegetable supply is integrated with approximately 9 other vegetable production nodes across the country. These are all interrelated parts of the domestic food supply chain that supply New Zealand with produce at different times throughout the year.

MAIN ISSUES FOR HORTICULTURE UNDER THE PROPOSED REGIME

17. The main issues for horticulture in Canterbury in meeting the proposed policy and implementation regime is related directly to the robustness of the OVERSEER® cropping module. As outlined in Mr Ford's evidence Horticulture NZ has concerns about the ability of the model to adequately reflect losses from the complex arable and vegetable cropping rotation in Canterbury.

18. Horticulture NZ is currently running two research projects that are being funded through regional councils, central government and industry to help to quantify the effectiveness of Good Management Practices in relation to nitrogen leaching (Rootzone Reality), and quantifying the effectiveness of mitigation measures for erosion and sediment control (Don't Muddy the Waters). Unfortunately at this point the OVERSEER® model does not take these into account and therefore, as outlined in Mr Ford's evidence, the modelling of 'Good Management Practice' on vegetable cropping in the MGM project is rather crude. This crudeness currently exists because the science is still in production and the development of the cropping module has not been a priority up until this point.

19. Therefore the three mitigations that the portal overlays onto files as outlined in Overview Report (Robson et al) are:

    (a) applying the correct amount of nutrients (phosphorous and nitrogen for plant uptake

    (b) efficient irrigation depending on PAW (Plant Available Water)as outlined;

    (c) minimizing cultivation and fallow periods.

20. Other mitigation measures taken by the grower such as slow release fertilisers, variable rate irrigation, deep ripping, sediment traps etc cannot be accounted for by the model so would not be taken into account.

21. Horticulture NZ is proposing a solution or 'workaround' for vegetable and arable systems that have been defined through the MGM process to gain a number for catchment modelling purposes under the plan.

22. Horticulture NZ is currently working alongside Environment Canterbury to develop a practical and implementable approach to overcome the issues with the modelling, while ensuring that growers are implementing Good Management Practice on-farm.

23. In working with Environment Canterbury to implement Plan Change 1 (Selwyn Waihora) the industry and Council have been developing a several pronged approach that meets the requirements of the plan whilst being practical, implementable and understandable for growers. This approach works with what has already been developed under the MGM process and uses the NZGAP system which is developing a 'bolt on' environmental management system to meet Farm Environment Plan ("**FEP**") good management practice requirements through an independently audited quality management system.

24. Horticulture NZ's submission to this plan asks that the portal be developed so growers can choose to overlay the MGM proxy rotation that best matches theirs in order to obtain their baseline GMP number (this does not preclude growers going to the effort of trying to model their rotation if possible but gives them the option to choose the generic file if it is not practical or possible to model their farm). It is worth noting that this work is already underway for Selwyn Waihora, with a view to rolling it out to the whole region.

25. Horticulture NZ recognises that not all growers systems will be represented in the proxy MGM farming systems and those with mixed livestock and growing systems may still have to try and model their system through OVERSEER. Horticulture NZ is prepared to work with these growers to get a file that represents their farming system as accurately as possible but it is worth noting that given the robustness of the cropping module at present as outlined in Mr Ford's evidence it is

unlikely that the model can reflect actual reductions in nitrogen leaching under these systems.

26. NZGAP – Environmental Management System is currently in the process of working with Council to develop a bolt-on independently audited self-management programme to meet Council requirements for FEP development and auditing. Please refer to Appendix C for a full outline of the programme. The NZGAP programme is benchmarked to Global GAP which sets an international standard for sustainability. The aim is to develop an industry-led environmental best practice that is audited and continuously improved. The system was originally developed to meet food safety standards and has since incorporated agrichemicals and other requirements as dictated by markets. This industry led programme is a different paradigm for achieving behaviour change and compliance that is industry-led. From a policy perspective Horticulture NZ is keen to ensure that the efforts of the industry to develop such a programme (and shoulder the compliance burden in conjunction with Council) are not stifled by constraining policies that do not allow industry to prove it is achieving best practice.

DEFINITION OF ACCREDITED FARM CONSULTANT

27. Horticulture NZ has concerns regarding the definition of the accredited farm consultant being required to have Certificate of Completion in Advanced Sustainable Nutrient Management in New Zealand Agriculture from Massey University.

28. Many horticultural agronomists, including Mr Ford who has prepared expert evidence for Horticulture NZ as part of this process, have not completed this course (as it does not have a horticultural component) but have an in depth understanding and training in not only agronomy but also modelling of nutrient cycling. The course in question has a very pastoral focus at present and is not robust enough in the eyes of the industry to adequately equip prospective modelers to model an arable or horticultural cropping rotation.

29. Massey University has been looking to expand its offering to cater for the sector and has an arable and orchard nutrient management course, however this has not been run since

2013. At this stage the course focusses on dairy pastoral based case studies. Horticulture NZ is in talks with Massey University on the development of a horticultural focused module. As such, and in light of the difficulty with finding consultants with an understanding of cropping systems and nutrient management, Horticulture NZ would prefer the definition be in line with the definition of Certified Farm Environment Plan Auditor which recognises consultants that have had at least 5 years' professional experience in the management of pastoral, horticulture or arable farm systems and who hold a tertiary qualification in agricultural science or demonstrate an equivalent level of knowledge and experience.

CONCLUSION

30. Horticulture NZ is prepared to work with Environment Canterbury to implement Plan Change 5 with growers in the region. From a policy perspective the need for regulations that allow the industry to develop programmes such as NZGAP to develop 3rd party independently audited programmes to assist and report to Council is becoming very evident at a national level. It is clear that the country needs to move from a reactive regulatory approach to a proactive industry led approach. Under the NPS for freshwater the need for industry to work alongside regional councils to implement the exponentially growing amount of regulatory requirements that promote and monitor environmentally sustainable practices is clear and therefore policy development that allows this approach is imperative.

Angela Halliday

22 July 2016

APPENDIX A

Matthew Dolan

Business Manager, NZ GAP Programme, NZ Agrichemical Education Trust

June 2016

The environmental benefits of NZGAP as a third part quality assurance scheme

Overview

The adoption Good Agricultural Practice (GAP) standards enables New Zealand fruit and vegetable growers to meet a range of regulatory and market requirements. The integrity elements of GAP programmes make them essential to the proposed Audited Self-Management model which is being considered by regulators and Regional Councils for the management of environmental issues in agriculture.

New Zealand GAP (NZGAP) is an assurance programme that certifies a range of fruit and vegetable crops in New Zealand. The NZGAP standard describes the Good Agricultural Practices that apply to New Zealand horticulture production systems. In the 20 years since the introduction of these programmes, the New Zealand Horticulture Industry has built a high degree of capability among its growers and auditors. Internationally, the NZ horticulture industry established a reputation for the performance and effectiveness of these programmes.

The governance, codes of practice, standards, record keeping, certification, standard risk assessment, research, training and technology provided by schemes develops continuously improving verified standards of environmental management that will have long term positive benefits.

Background

1. New Zealand GAP is an internationally recognised standard for the certification of New Zealand grown fruit and vegetables. Certification to a Good Agricultural Practice (GAP) programme is a market requirement. Growers are therefore highly motivated to achieve and maintain certification.

2. Established in 1999, New Zealand GAP is a robust assurance programme that has been developed to enable growers to meet a range of regulatory and market requirements, including environmental matters. The integrity of the programme lends itself to the proposed Audited Self Management model.

3. The New Zealand GAP standard is set out in the New Zealand GAP scheme rules, New Zealand GAP manual and checklist. Certified Growers are

audited against the New Zealand GAP standard and are required to meet the requirements in order to achieve certification.

4. The New Zealand GAP scheme enables growers to manage the costs and complexity of regulation and the multiple certification requirements of retailers and processors in New Zealand and overseas. A key driver for the programme is the need for an efficient, cost effective management and production system that manages the increasing complexity and duplication of standards and audits. New Zealand GAP helps to ensure that there continues to be "a single auditor coming through the gate".

Establishment of New Zealand GAP

5. The establishment of the New Zealand GAP programme was a pro-active move by New Zealand growers to address consumer concerns relating to food safety, the environment and quality assurance issues. The New Zealand GAP scheme now includes the "New Zealand GAP" scheme and the "New Zealand GLOBALG.A.P. Equivalent" scheme. Both schemes are referred to in the term "New Zealand GAP'.

6. Since the programme was launched in 1999, it has become one of the most widely recognised Good Agricultural Practice programmes in the NZ Horticulture industry. Over 65% of New Zealand Growers are certified to one or more Good Agricultural Practice programmes. This is among the highest rates of certification in the world.

7. In addition to the 1200 growers that are certified to New Zealand GAP, there are approximately 2400 New Zealand growers certified to the European based GLOBALG.A.P. Programme. (www.globalgap.org). GLOBALG.A.P. is a private standard that is owned by European retailers and sets production standards for their suppliers in over 50 countries. GLOBALG.A.P. has specific and detailed requirements in areas such as nutrient and water management and is by its global nature, a more complex standard. The "New Zealand GAP - GLOBALG.A.P. Equivalent" scheme includes GLOBAL.G.A.P. certification.

8. The New Zealand GAP standard describes New Zealand production practices and refers to New Zealand Regulation and Regional Council requirements in key areas such as pesticide use, land and water management. The Food safety elements of New Zealand GAP are being favourably considered as meeting the requirements of the Food Bill, currently before parliament. This will enable certified growers to be recognised as having met requirements of the new food safety regulations, in a similar way to the proposed Audited Self Management approach.

DEVELOPMENT OF THE STANDARD

9. The New Zealand GAP standard is reviewed every 4 years, or when a significant change is required. The most recent review (version5.0 November 2009) introduced requirements and guidance for environmental management in the areas of:

   (a) Production site management (including soil conservation);

   (b) Nutrient management;

   (c) Water management.

10. It is intended that future versions of the New Zealand GAP will align with the requirements of Regional Plans, and may be strengthened in key areas to enable this. As the New Zealand GAP standard develops over time, the skills and capability of growers and auditors also develops. Training is a key component of the New Zealand GAP programme and the standard requires evidence that growers and auditors participate in industry training programmes and certification schemes. New versions or interpretations of the standard are accompanied by training events and updates for growers and auditors. This is an ongoing process which is key the ongoing development of the programme.

11. The New Zealand Horticulture Industry has established a reputation for keeping up with market and regulatory requirements. The industry has a high degree of capability among its growers and auditors.

HOW NEW ZEALAND GAP ASSURES STANDARDS FOR GOOD AGRICULTURAL PRACTICE

12. New Zealand GAP describes Good Agricultural Practices that apply to New Zealand production systems. Their adoption is verified through an independent third party audit, which leads to certification of the crop.

13. New Zealand GAP refers to local regional council rules and industry programmes where they exist. This means that there is already a link to regional council rules and an opportunity for councils to recognise this evidence.

14. Certified growers are required to provide a significant amount of evidence of their practices during the audit process. This includes records, certificates, documentation and observations. The discipline required to achieve and maintain this evidence over time has resulted in many growers adopting an integrated quality systems approach within their businesses. Growers' comment that this has been of benefit to the running of their businesses as new requirements can fit into this framework.

15. New Zealand GAP draws on industry guidelines where they are available, for example the Fertiliser Association of New Zealand "Code of Practice for

Nutrient Management", and various soil conservation guidelines. This code of practice sets out the requirements for nutrient management plans. These requirements are covered in New Zealand GAP Audits.

ACHIEVING CERTIFICATION

16. The processes by which growers achieve certification to New Zealand GAP are described in the New Zealand GAP scheme rules. Participation in NZGAP is open to any business that produces crops for human consumption in New Zealand. Growers can only receive certification for product that is produced by them.

17. Growers can apply for certification under 3 options to suit the structure and management of the business. These options are tailored to the common business structures of New Zealand farming operations.

    (a) Scheme A: Individual Business Certification - Central management;

    (b) Scheme B: Individual Business Certification - Multiple managers reporting centrally;

    (c) Scheme C: Group Certification - Multiple businesses covered by one certificate.

18. When determining the most appropriate scheme the following apply:

    (a) Only one certificate is allowed per legal entity (i.e.: grower/company/business).

    (b) Growers applying for certification must own all product that is produced on the land AND be responsible for all activities that take place in relation to that crop.

    (c) For land not owned by the grower e.g.: lease or management arrangements, signed contractual agreements must be in place that confirms ownership of the crop.

19. All Approved Suppliers are independently audited and monitored and must continuously meet the New Zealand GAP standard to ensure on-going certification. The New Zealand GAP manual sets out the requirements for the range of matters addressed. Production site management includes soil conservation and is relevant in terms of reducing risk of sediment loss from production systems. The section on Nutrient Management includes nutrient management plans and compliance with regional council plan requirements. These matters are included in the Assessment Checklists, which are the basis of the New Zealand GAP audit.

AUDITING AND VERIFICATION

20. New Zealand GAP is audited by 2 independent third party agencies, known as Certification Bodies: AsureQuality Ltd. and SGS (NZ) Ltd. The New Zealand GAP audit process includes a combination of site audits, self-assessments, random audits and targeted audits.

21. Auditors are qualified and skilled in following a structured audit process. The majority of auditors currently operating in New Zealand have relevant tertiary qualifications and /or experience in crop production. Auditors will need to have an understanding of the requirements of the proposed Healthy Rivers Plan. The required level of understanding would need to be determined, including the interpretations and expectations of Regional Councils, to enable Auditors to effectively verify the practices on farm.

22. It is appropriate, therefore, that there be some transitional period to ensure that all growers and auditors are aware of the new system.

WHY IS NEW ZEALAND GAP IS THE APPROPRIATE TOOL IN THIS SITUATION

23. New Zealand GAP is an appropriate tool in my opinion because it is integrated into the growers' business system, it is well known, respected and trusted within the horticulture industry and is already a key market access instrument. There are already a significant number of growers certified to New Zealand GAP in the Waikato region. Aligning new rules to this existing programme offers the opportunity for a more seamless and effective adjustment.

24. Compliance standards in New Zealand are largely driven by the customer. It is sensible that the system that has been developed by growers, for growers with the assistance of their customers is also used to meet the needs of local regulatory agencies such as Environment Canterbury. For the growers it prevents adding complexity, cost and the burden of additional audits.

25. New Zealand GAP has the elements of integrity that are sought by regulators. This includes a structured system, independent audits, and underlying quality assurance systems that have been tested and improved over many years. New Zealand GAP is a controlled, audited self management system that is updated from time to time and known by its current version number and reference. The current version is Version 5.0 November 2009. The version is being modified now and will be released shortly, with the major elements of revision including new environmental management module components and food safety updates.

WHAT ARE THE ADDITIONAL ASSURANCES NEW ZEALAND GAP PROVIDE REGARDING IMPROVEMENT OF ENVIRONMENTAL FOOTPRINT?

26. *Governance and business models*: Recognised schemes have well-functioning Governance boards and committees that are able to set good strategies and support them. Also, schemes require sound business models to ensure that they are resilient and have sufficient resources to carry out their functions.

27. *Guidance and codes of practice:* Guides and codes can be used to describe and document the range of GMP's. These can be developed by regulators, or industry organisations. The Scheme provides a standard process to continuously review and improve these to update them as technology and science find new solutions to environmental concerns and issues.

28. *Records & data:* Records should be used as evidence of practice where ever possible. Records provide a versatile method of verification in that they can be viewed and verified remotely (desktop or online) and by a range of people with specific expertise.

29. *Recognition & certification:* Recognition is the most important way that businesses participate in a programme or scheme & for driving uptake. A consistent system of recognition is required to identify businesses that comply with the standards. This recognition must be of value to the certificate holders, and be recognised by industry, consumers and regulators.

30. *Risk Assessment:* Risk assessment methods and techniques are well established in the existing GAP programmes. Certified producers already follow a risk assessment process for Food Safety, Worker safety, Food defence (site security) and Residue management and therefore have a good understanding of how the process works.

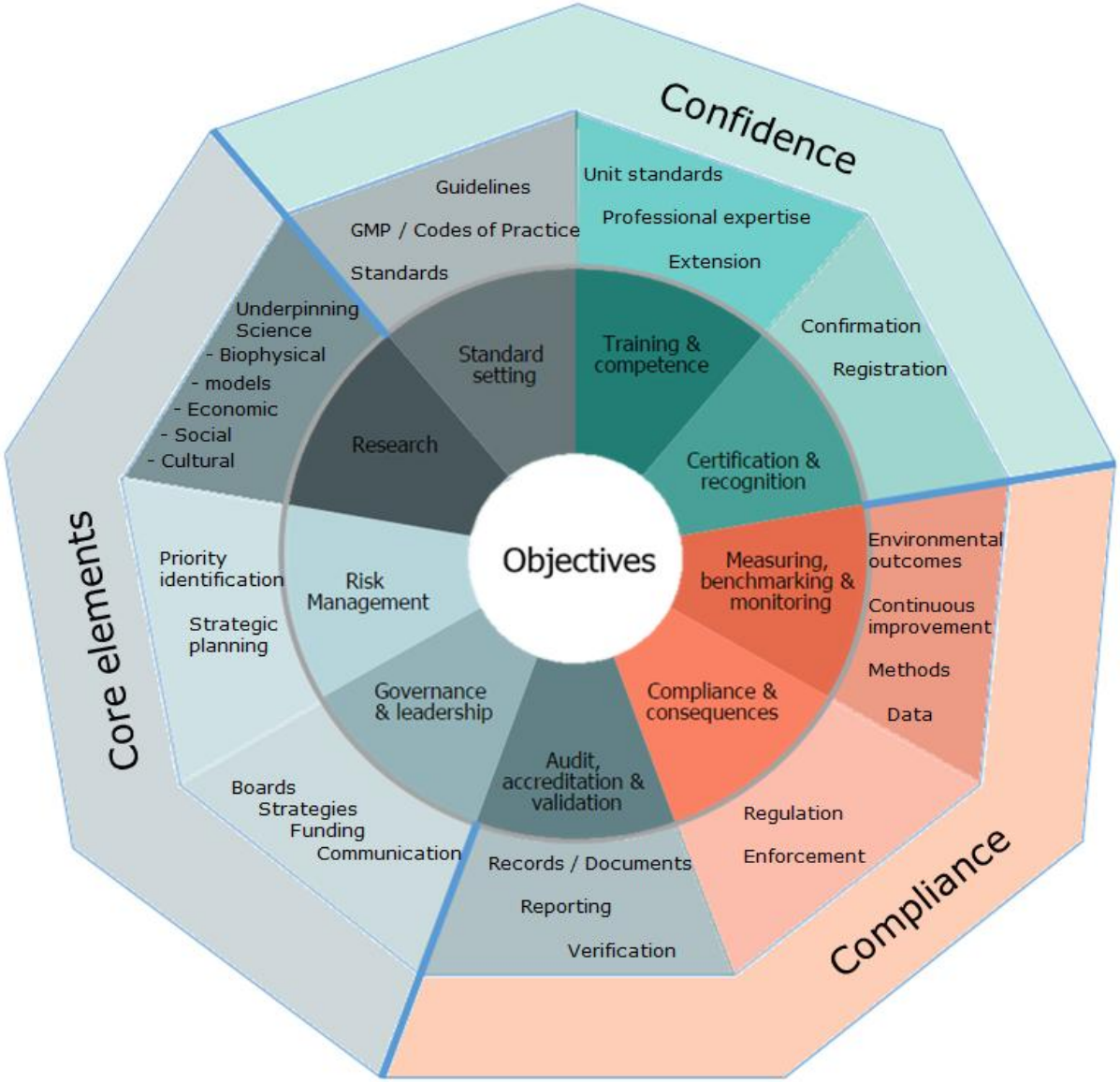
31. *Research and innovation*: The tools being developed by NZGAP to promulgate Good Management Practice are supported by the Horticulture New Zealand and Regional / Government funded science programmes designed to assess the effectiveness of practice, and to develop new practices that can be implemented. These programmes are comprehensive and peer reviewed, and are generally beyond the ability of any single enterprise to sustain.

32. *Setting standards & limits*: This includes the standards development process as well as the structure and content of the standard. Standards must be relevant and linked to the objectives of the framework.

33. Training and competence: The competence of the members of the scheme is an important part of the credibility of a scheme. Competence can be

achieved by formal training, or through experience. The scheme is in the process of developing core competencies around training for growers, farm advisors and auditors in the environmental management disciplines relating to desired Healthy Rivers Plan Change outcomes.

34. *Technology*: The scheme is developing reporting technologies that are standardised, and that can deliver improved information to growers and regulators in a standard way.


Confidence
Unit standards
Professional expertise
Extension
Confirmation
Registration
Certification & recognition
Training & competence
Standard setting
Guidelines
GMP / Codes of Practice
Standards
Research
Underpinning Science
- Biophysical
- models
- Economic
- Social
- Cultural
Core elements
Priority identification
Strategic planning
Risk Management
Boards
Strategies
Funding
Communication
Governance & leadership
Objectives
Measuring, benchmarking & monitoring
Environmental outcomes
Continuous improvement
Methods
Data
Compliance & consequences
Regulation
Enforcement
Audit, accreditation & validation
Records / Documents
Reporting
Verification
Compliance

Regulatory & Industry Assurance Framework