

## FLAG MEETING NOTES: 17 September 2014

<b>Purpose:</b>	Waimea Plains Freshwater and Land Advisory Group (FLAG) – Meeting 5 (HortNZ)
<b>Date:</b>	17 September 2014
<b>Time:</b>	1.30pm-4.30pm
<b>Venue:</b>	TDC Wangapeka/Heaphy Rooms
<b>Present:</b>	<p><b>FLAG members:</b>            Nick Patterson (Chair)            Matt Hippolite (iwi representative on FLAG) (Deputy Chair)            Philip Woollaston            Gavin O'Donnell            Martin Rutledge            Pierre Garguilo            Lawson Davey            Andrew Kinnimoth            Heather Arnold            Zane Mirfin (council representative on FLAG)            Dean Rainham (co-opted member)</p> <p><b>HortNZ Representative:</b> Chris Keenan</p> <p><b>Staff:</b>            Mary-Anne Baker (Senior Environmental Policy Planner)            Lisa McGlinchey (Environmental Policy Planner)            Joseph Thomas (Resource Scientist – Water)            Glenn Stevens (Resource Scientist - Water &amp; Land)            Trevor James (Resource Scientist – Environmental Quality)            Andrew Burton (Resource Scientist – Land)            Jane Stuart (Compliance and Investigations Officer)            Steve Markham (Manager- Environmental Policy)</p>
<b>Apologies:</b>	Mirka Langford
<b>Notes taken by:</b>	Lisa McGlinchey (supplemented by other staff)
<b>Definitions and Abbreviations</b>	FLAG=Freshwater and Land Advisory Group NPSFM= National Policy Statement for Freshwater Management 2014 NOF= National Objectives Framework TRMP = Tasman Resource Management Plan <b>Unconfined aquifer</b> = are those where permeable strata are open to the ground surface. Surface water (rainfall and/or river flow) is able to seep from the ground surface directly to the aquifer. <b>Confined aquifer</b> = are those where permeable groundwater bearing strata are separated from the land's surface by an impermeable layer (such as silt or clay) that prevents surface water from directly seeping into the aquifer. Groundwater migrates to confined aquifers from an unconfined recharge area located elsewhere. AGUA= Appleby Gravel Unconfined Aquifer UCA=Upper Confined Aquifer LCA= Lower Confined Aquifer
<i>Note: records of discussion points have been grouped into similar topics and are not necessarily in the order discussed at the meeting.</i>	

## **Session 1 – Presentation by HortNZ on projects occurring in NZ**

FLAG Chair Nick Patterson outlined the FLAGs progress and highlighted that the FLAG is keen to get Chris' opinion on what the group should be considering in the FLAG process from a horticultural perspective. In particular, the FLAG is interested in filling gaps in understanding around commercial vegetable production and market gardening with regard to best practice and nitrate leaching.

### **Presentation 1 – HortNZ research overview – Chris Keenan**

Chris Keenan from HortNZ gave a presentation on the benchmarking projects that have been occurring in New Zealand including an overview of the associated modelling and definition of good and best practice within the horticultural industry.

#### **Key points from presentation:**

##### **General**

- There are nine benchmarking projects nationally
- HortNZ is working with growers and communities to find the answers – in particular to define what is good and best practice
- HortNZ assisting with implementation of the Horizons One Plan
  - need tools for growers to do this – on a fast learning curve
  - trying to understand all the implications – not just looking at technical aspects, but how fast community can adapt, invest new capital, what effects will be on economics and water quality outcomes etc.
- Using the same approach as dairy industry as they have already created an environmental management system framework: Problem identification>>science/tools to measure/model>> system to keep information>>audit/reporting
- Information is power and getting the right information in the right format is key
- Define what is good and best practice – with the intention to then be able to certify “grade” users and take advantage of associated incentives.

#### **The desired system outline:**

1. Regulatory policy in place
2. Define and provide practice guidance (good and best practice)
3. Future use of Grower Certification (grower and advisors) on use of code of practice (at different scales) and from this develop consent conditions
4. Industry based auditing to keep costs down – with checking audits done by Councils
5. Planning instruments that recognise good and best practice and incentivise best practice (eg longer consent durations, greater reliability of access to water, reduced compliance visits, reduced RMA Sec 36 administrative charges as lower risk,etc)
6. Regulate poor practice (eg greater auditing of those not achieving good practice, compliance action).

#### **Codes of Practice**

- Work is being done to define what is good and best practice. Good management practice has an expectation that most growers – especially new entrants - can readily achieve. We need to ensure bottom lines are not set too low, so that efforts actually achieve some positive outcomes. Differences between good and best may be in the detail of methodology/regime used.
- Developing local codes of practice - eg Franklin code based on Franklin Sustainability Project and developed with growers, iwi, Forest&Bird, etc.

- Over time learnt more about what works and what doesn't. Starting to get into detail of how effective measures are, and how much they cost.
- Doing in paddock and out of paddock trials as part of *Sustainable Farming Fund (SFF)* project to look at this.
- Existing codes have templates that will eventually be electronic – these will assist in information gathering and better modelling.
- Codes designed to continuously improve – with a version control system. Applicable for NZ-GAP and council systems
- Codes include process including paddock assessments, implementing control measures for stopping or controlling water, implementing erosion control measures, implementing sediment control measures.
- Very site specific, so providing a tool box of options for growers to use.
- Project also seeking to make local codes into national codes – but this will take a lot of work with growers to achieve - eg Horizon codes – need to check fit for purpose for Tasman before we can roll out here.
  - National standards/practices allow for effective training and accreditation etc
  - Have 3 regional grower reference groups and 1 national group - also seeking funding to speed up consultation process to seek wider feedback
  - Following Agrichem system –set best practice and have training to support it

### **Modelling**

- Various models are available – it is important to understand what farming/crop types they are developed for, as some are more suitable for particular crops than others eg:
  - OVERSEER – pastorally based – only model at the farmer level of implementation - designed so farmer and their advisors can use themselves.
  - Research models – run by CRIs – SPASMO (Soil Plant Atmosphere Simulator) – mostly developed on fruit production by Hort Research. Have used model for benchmarking report in Gisborne.
  - APSIM – Australian based – use for vegetable cropping as this requires a model that has daily timeframes to capture the changes, rather than annual or monthly time frames.
- Different versions of the same model will yield different results with the same data – this needs to be considered when developing regulation based on model outputs – you will need to implement version control and date the outputs and regulations to a specific version of the model
- Despite OVERSEER not providing accurate results for horticultural crops - Judges around NZ are still asking for modelling using OVERSEER models.
- Models developed need to be useful for planning as well as implementation – ie can be used by farmers to implement plans on-farm.

### **Work in Commercial Vegetable Production**

- Community interested in managing N, P, soil conservation, water efficiency, agri-chemicals, biodiversity. Lots of aspects, but just focussing on those associated with water quality.
- Don't have complete answer yet – working quite fast to try and fill gaps.
- Most advanced (including process and practice guidance) in agri-chemicals due to impacts on human health
- Audited self management system

- Eg of best practice: variable rate nutrient application – using controlled traffic farming to GPS movement of equipment. Starts with soil mapping – put into GPS – then uses GPS and information to open/close apertures in fertilising equipment to deliver the correct rates to the right soils.

### **Soil conservation**

- Risk based assessment approaches – targeting aspects that will be most effective in reducing discharges – science based approach.
- Developing local codes of practice. Eg Franklin code
- When managing soil, often also managing phosphorus.
- Work highlighted that growers can be vulnerable to what neighbours do and how they manage their sites. Example of runoff coming down mountains, impounded by railway, which speeds up through culverts and erodes cultivated land downstream. Landowners have worked with council etc and have mapped and contoured paddocks to ensure secondary drainage is sized appropriately and then put sediment traps at appropriate locations to prevent water getting into Lake Horowhenua (lakes are below national bottom lines for contaminants). Similar work in Pukekohe.

### **Nitrogen**

- Can't easily measure nitrogen, but can model it – models not as well developed for vegetables as for pastoral systems.
- Need to understand model development to understand model outputs.
- Need to know what you are doing now. HortNZ have been surveying growers with representative samples to measure what practices are undertaken by growers, what amounts of fertiliser are used, what rotations, and order, what crops, what irrigation, how much water is applied, what the soils are etc – to determine what leaching is occurring.
- Systems, as well as climate and soils vary across the country so need to do research locally, but using a nationally peer reviewed process so locals have faith in it when we provide answers.
- Important to show community that we are doing our best to deal with the issues we have.
- Takes a lot of work with grower groups – they need to recognise there is a problem first before they can deal with it. Can be difficult when there are so many other considerations growers need to manage.
- HortNZ trying to get expert and grower led understanding of what practices work to control nitrogen runoff and grower information on what practices work in practice – defining what is good vs best management practice.
- All data we have about what is good nitrogen practice is 30-35 yrs old (1980s).
- Models don't have any information about what farmers can do to minimise nitrogen loss. Driver to develop model based approach – growers don't want to be told what to put on land, but what their effect is and how to manage it.
- HortNZ is spending \$200k to look at OVERSEER vs APSIM models - have a network of lysimeters in Canterbury, Pukekohe, Pukekawa, Hawkes Bay, etc to measure nitrate leaching over 4 years.
- Establishing code of practice – 1<sup>st</sup> is in Horizons
- Looking also at economics of what would happen if nitrogen inputs reduced.

### **On-Farm vs Catchment Accounting**

- Knowing what you leach as a farm is not the full picture. This needs to be considered in context of the catchment models (Catchment Scale Accounting).
- Catchment models use information on climate, land use (including leaching at root levels, etc), soils and hydrology to determine Nitrogen, Phosphorus and river relationships and then to determine catchment loads/limits – but these limits apply to all landowners in catchment.
- What OVERSEER predicts comes off a farm is not what is ending up in water body due to attenuation effects. Nitrogen does odd things under the root zone – it can end up in the atmosphere or in water bodies. It depends on what is under the root zone. The difference between what is coming off individual sites (from OVERSEER) and what is coming out at a catchment level is ‘attenuation’.
- Nitrogen discharge allowances (NDA) are assigned to each farm (with assumptions of attenuation)
- Depending on what version of OVERSEER is used – you get different outputs for the same farm.
- Need to freeze outputs in time, based on versions of models, for both outputs from OVERSEER and from catchment models to ensure NDAs don’t fluctuate.

### **Links with planning processes**

- HortNZ is concentrating on what is good or best performance, rather than what is poor performance. Industry systems need to be supported by council systems – especially in the area of underperformance – need to ensure consistent signals going to good performers and compliance system reflects this. In the long run HortNZ keen to see the planning instruments recognising good and best practice – incentivise best practice, and regulate the poor practice.
- Incentivising includes increased consent duration, greater reliability of access to water, reduced compliance visits, reduced RMA Sec 36 administration costs as lower risk.

### **Tasman Research**

HortNZ is keen to work with local Waimea growers to determine what they want – just a matter of timing (11 regions all trying to answer the same question at once).

### **Tasman Benchmarking Survey**

Chris recommended the Tasman benchmarking survey work:

- should include a representative sample of the crops and growers - HortNZ have methodology for selection of a representative sample
- use the survey template developed by HortNZ
- be undertaken by trusted, independent people (outside of district) as sensitive commercial information can be involved
- include a Financial Gross Margin analysis - that is done separately by Stuart Ford as he understands both the survey/benchmarking work and vegetable production aspects

### **Nutrient Performance and Financial Analysis Report**

- The Waikato report (Nutrient Performance and Financial Analysis of Lower Waikato Horticulture Growers 2014) is an example of the kind of report HortNZ could do for Tasman – this would use survey information from representative growers etc to gather information for modelling. Turn around for getting these reports done is approximately

2 months (excluding surveys). Chris is currently getting a quote for doing this work in Tasman.

### **Further information**

Further information is available on the HortNZ website ([www.hortnz.co.nz](http://www.hortnz.co.nz)). On HortNZ website go to 'activity areas' then the 'natural resource management and environment tab' where there is a range of information including policy (eg allocation of nutrients) and technical reports (eg Waikato Nutrient Performance and Financial Analysis report).

### **Actions – Chris Keenan**

No.	What	Who
1	Forward an updated copy of his Powerpoint presentation to MAB for upload to TDC website.	CK
2	Arrange for Angela Halladay (HortNZ) to meet with MAB in the next 2-3 weeks to help scope out and cost the Waimea benchmarking survey project.	CK
3	Arrange for Stuart Ford to provide a quote to the FLAG to undertake the financial part of survey.	CK
4	Chris Keenan to organise a Waimea grower workshop to introduce the existing codes of practice – to start a discussion on good/best practice.	CK

### **Action Points – Council Staff**

No.	What	Who
1	Mary-Anne to develop project scope and costing for benchmarking survey and forward to FLAG for review.	MAB
2	Staff to investigate potential for future funding applications (SFM/EnviroLink /SFF/etc) for further research work.	MAB

### **Action Points – FLAG members**

No.	What	Who
1	Review project scope and cost and identify funding options.	ALL

### **Questions and topics of discussion arising from Chris Keenan's presentation:**

#### **Has there been any work on residual pesticides?**

*Yes, a number of projects that have been peer reviewed. Have not seen in monitoring any reason to assume safe working levels are an issue, unless there are specific events where pesticides are being directly applied to water.*

#### **Need to 'nelsonise' information provided – are there other areas that have already got work we can use as a template?**

*Yes and HortNZ has a role to support this approach.*

#### **Is there a dose-response relationship between what is put on land and what is seen in water bodies?**

*The Canterbury MGM project is looking at this.*

*What is done on farm can't be modelled – need to put this into models directly.*

*Sustainable Farming Fund (SFF) funded projects looking at yield responses - one on soil/phosphorus and one on nitrogen.*

### **How do you deal with commercial sensitivity of information?**

*This is a really important aspect. With national auditing systems the relationship is between the auditor and grower. Need to use auditors you can trust to protect growers information. This also creates a dilemma around sharing information in government and local government systems where this information may be available under LGOIMA requests.*

### **Who should wield the stick if performance not being met?**

*Those not meeting good practice don't deserve to use community resource. This view is supported by Court review of Horizons One Plan. Growers should be meeting good practice as a matter of faith for communities. Poor practice could result in something being a permitted vs controlled vs discretionary activity. Should not be penalising those undertaking good practice – regulate only the poor performers.*

### **Are risk aspects within environment management plans a key component?**

*Yes, but also what farmers are actually doing on site. Information is key – if you fail to plan, you plan to fail.*

### **There could possibly be a lack of recording information by growers - rather than a lack of information - ie not written down, but kept in mind...**

*Yes – HortNZ is working to improve recording of information, which also allows for analysis, etc. It is a challenge to provide capacity without drowning people in paper – templates are a good way to go – need common language across industries – what data we need to collect and how. Information should be there regardless of type/region – but could be differences in extracting the necessary information from different areas. Expectation that Waimea industries should be reasonably similar – should be able knock off benchmarking survey quickly/easily as can count number of players on one hand.*

### **Why might a grower use GAP rather than going and getting a resource consent?**

*Applicability to consenter, market etc – how cost effective in delivering certainty. GAP is not compulsory and growers may not necessarily sign up to GAP. Lots of duplication for different certification processes here and overseas. Key is getting information extracted out of auditor-grower relationships and training auditors to gather suitable information.*

### **Some programs are industry specific and don't mesh well with others - eg pip fruit/vineyard, GAP vs sustainable viticulture, etc.**

*Yes, we need to get a good consistent base to work from. There are often a range of key activities that are same. Certification is market driven – can be difficult for regulatory systems to get useful comparative data out of these processes. Some growers want everyone to have the same level of pain, some think they shouldn't have as much pain as others as they have less effects. It is mostly a social process – when building Horizons system – other areas wanted their own codes as they thought they did things differently – but outputs were remarkably similar so ended up with one code for all areas.*

*Growers having to get bigger to be economic – economic efficiencies are driving behaviour. Moving away from mum/dad farmers to bigger organisations, with back room staff and dedicated resources to do background processes/management etc. There are probably significant differences between top and bottom of Waimea growers. Inefficient growers are dropping out.*

### **What do you mean by incentives for best practice?**

*Increased consent duration, greater reliability of access to water, reduced compliance visits, reduced RMA Sec 36 administration costs as lower risk - reducing compliance/consenting costs or reliable access to resource is akin to money incentives.*

*Eg: if two six-monthly audits are ok then go to 12month audits – people strive to reach 12mths as audits take a lot of time and money.*

### **How long did the Horizon Plan take to amass the information it needed to make a meaningful decision making process? TFC has very tight time frames for expectation of advisory package.**

*Is it important to get it right from day one - even if we are precautionary.*

*Horizon One Plan is not a great example - spent a million dollars on One Plan - mostly in courts on experts, etc – HortNZ had to shut down communications with council during the process. Over seven years a lot of onsite practice has improved. Better to engage in a constructive process – so planning frameworks can be adapted.*

*It is important to set an objective of where you want to go – both in medium and long term – I find you tend to achieve them faster than planned.*

*Horizons One Plan process regarding nutrient planning wasn't particularly consultative. It went through a consultation process, but what was notified was very different from what was drafted during the earlier consultation process. The process started well, but had a different philosophy/ideology in later stages.*

*There has been a more constructive relationship with council since the plan process.*

### **[Current SOE for Horowhenua seeing some positive improvements in water quality already – best and good management practices actually achieve results.] What sort of time frames did Horowhenua have for seeing improvements?**

*Not sure, we don't have data on when farmers starting changing practices. Also dairy/urban practices have changed. Use of specialist agronomy – targeted use of nutrients. Plus efficient irrigation is crucial – not much and not enough can both lead to nutrient losses (too little and plants don't take up the nutrients and they are lost, too much and nutrients are washed through the soil before plants can use it).*

### **Has work been done on using carbon, eg biochar etc?**

*Managing soil organic carbon/matter is one of the key things to consider in managing nitrate, but can't yet prove it. Looking at project to answer this (Dr Fiona Curran-Cournane). This is a big black box in OVERSEER. For vegetable growing the main proportion of model nitrogen leaching is from cultivation - tuning over soil and mineralising nitrogen – rather than fertiliser use.*

### **Are we reinventing the wheel if lots of work was done for the Horizons One Plan?**

*Yes, but still a large amount of work going on.*



*I think you have enough work to progress with – can learn from Horizons process – high court judge said they will allow HortNZ legal points unless Horizons can show their plan would work for growers – the resulting plan was built into the decision and since then lots of movement by growers to follow this.  
Horizon and TDC very different beasts.*

**Can TDC staff provide examples of what Horizon bits might be applicable to Waimea?**

*Don't think there is anything we can just take out of Horizon Plan and plug into TRMP as is, but can use the frameworks etc. Canterbury work also useful.  
Other work to consider from Canterbury, Waihora, Ruataniwha processes, Horizons implementation plan, etc*

**How much of the implementation plan was in Horizons Plan versus in codes of practice?**

*Consent requirements for vegetation production (discharge rule)  
Originally there was a leaching table that determined activity status – but effectively the court said everyone was a controlled activity  
There were also guidance notes for consent assessing, standard consent conditions, etc  
Administrative systems and processes  
Lake Horowhenua Accord - community long term projects to address big issues.*

*The FLAG needs to consider implementation plans as well as the TRMP itself – we haven't been so good at former in Tasman. Need to consider this in FLAG process.*

*There are other players for involvement in developing implementation plans.*

*Eg five Franklin lowland streams– some urbanising (getting stormwater systems) are below national bottom lines at present – Auckland Council is seeking exemption and engineering size of water management unit to offset loss of urban quality with improvements in rural and pushing cost of rural improvements onto farmers – they are effectively expecting 13% of community to achieve what 87% can't.*

**Waimea seems to be starting from a better position than many areas. How should this be included in our thinking?**

*You still need to define what you want by “maintain and improve”. Need to consider where environmental risks are (eg bands for attributes) and what economic provision is made for region. Eg there are very low nitrate levels in Gisborne due to soil type, but if they hold onto a maintain or improve scenario this would severely limit economic growth - but also need to ensure we don't have long term degradation effect.*

*What are the drivers for water quality in Waimea?*

*The way forward for FLAG is no different than for landowners >> what is current status>> risk where holes are>> management plan – how you are going to implement >> and need tools to do this.*

*Concern that resourcing going into on-farm accounting, but very little going into catchment accounting.*

*HortNZ found \$290k for new Ruataniwha model as the Regional Council model couldn't be used by landowners after the event to actually manage the systems (ie modelling needs to be useful for planning as well as implementation)*

*Eg water meter data and irrigation records going straight into the model to define if meeting the limits and compliance reporting.*

*Should be building framework for both quality and quantity and allow for information basis to improved with time.*

*Whole range of practices could be occurring on farm to affect nutrient attenuation levels.*

*If we can recognise technology innovation to achieve water quality outcomes through best practice this will help drive the innovation for new technology.*

### **Larger growers have greater capacity to put resources into best practices/regulation**

#### **What happens to the boutique players – doesn't it force them out?**

*Yes and that is what we are seeing in the attrition within the industry. There are options for business to cooperate and make use of cost efficiencies – it doesn't matter if they are small or large grower, technology is "the way out".*

#### **How advanced are HortNZ best practices and what impact are they going to make over current practice?**

*Starting to be good evidence that market gardens are performing vastly differently than they were previously – between 2002-2012 deep end tests by PGG Wrightson at 90 Canterbury sites showed leaching data reduced by 50% over that time as growers got better agronomic advice on what to apply – driven by production, not environmental outcomes.*

*Key to get baseline on where things are at and simple monitoring systems to gather future data.*

*Important to collect data on where they were 10 years ago, as well as where they are now – to put into modelling.*

*Sometimes there are very long time lags to see statistical changes – but need to start somewhere and start gathering information – catchment accounting is key as a means to store this information.*

**HortNZ keen to provide support to Waimea – just a matter of when.**

## **Session 2 - Next steps for the Waimea Plains**

The FLAG members, staff and Chris Keenan had a discussion on what the next steps were for the FLAG regarding benchmarking information.

### **Work on good practice**

- Need to canvas from growers in group and socialise the work from Horizons, etc – review what is defined as good practice in Horizons work.
- Start by getting a statistically representative group of growers – 3-4 days of surveys collecting information on:
  - Yield, fertiliser use, application rates, return periods, etc.
  - Metadata – eg what happened in past – and on what has changed
  - Nature of products and specification have often changed a lot. Eg fertiliser types and forms used
  - Land use vs land use practices
  - Planting numbers and planting rates

- Quanta of different land use – distribution and quanta more difficult – in Tasman have a summer project to better understand pattern of land use.
- Once you have good practice benchmarking data for Waimea – HortNZ can provide what they think is good practice
- Residual Nitrates from historic practices

### **Can we get statistically relevant work done over summer?**

- Busy time in industry – now till April.
- Giving information easy – collating more difficult
- Agfirst can support work
- Need someone who has done surveys before to collect – with someone to peer review
- Does data include crops that are dug in as not economic to harvest? – yes this is in the survey.
- Only small number of growers required to get representative sample for Waimea – should be doable in short time.
- What about geographic consideration of variable soil types? Yes – especially for market gardening as can be over various soil types at different times of year.
- Suggest also do financial analysis at same time = gross margin analysis (two parts to survey). Include in financial analysis – what if we had 10%, 20%, 30% less nitrogen – include in benchmarking survey as a small part of cost and need to do this anyway
- Aim for Survey – mid October or November 2014
- Notification 2-3 weeks prior for survey participants
- Chris to check with Stuart Ford (agronomist) to do gross margin work
- Potential for bigger longer term project? – look at funding applications for SFM/EnviroLink /SFF...etc

### **Benchmarking – should it just look at market gardening?**

*Could look at other crops - in other areas looked at maize, commercial vegetable production, apples, etc [Chris defines market gardening as multiple crops in the same field and commercial vegetable production is this scaled up – with single crops per field, but multiple crops over different properties].*

*Fonterra will have the info for dairy farms.*

*Beef/lamb data more difficult – but these industries not in Waimea*

*Effective area vs actual area is important in modelling (ie excluding all land parts that are not in crop)*

### **Who can do this for waimea?**

*HortNZ have a standard survey – the Gisborne survey was done by independent consultation – as long as they are acceptable to growers and can follow the HortNZ protocols then this is ok with HortNZ.*

*A local provider could work – but might be better with independent – out of region - provider. Ensure survey participants understand why we are gathering data.*

*There is no benefit in under or over estimating.*

*2 options model wise: SPASMO (Brent Clothier, etc - Crop and Food) for fruit; APSIM for vegetables.*

*OVERSEER? – see Selwyn-Waihora evidence on version changes with same data.*

*Chris suggested using someone independent to do gross margin work – as need to collect enough information from enough people and lump it, so that you can't see any individuals numbers.*

*You will need two different surveyors- one for financial gross margin and one for practice – surveys can be done in tandem.*

**Need to get out and get data – identify someone to do – do we have resources? – How much can HortNZ assist?**

*Unfair to put all cost on HortNZ as we will also be looking at dairying, etc  
HortNZ is willing to co-fund, but would want to see input from other industry sectors.*

*Need cost estimate for work and then find funding. Ball park cost for benchmarking survey work is \$25-30,000*

*Timeline – 1 month for benchmarking surveys? – get done by December 2014?*

**Need to send letter to growers to get information – send out electronically in advance with decent amount of information on why we are gathering data.**

*HortNZ will schedule Angela Halladay - to come and sit down with staff/FLAG to scope project within next 2-3 weeks.*

*Do we need to look at anything specifically different than Gisborne – no just the same as everywhere else and to include financials.*

**Should survey representative selection be linked to land area?**

*Need big and small land areas, key product categories, stratified random samples. HortNZ have a methodology for the selection of a representative sample.*

**Is there a contestable process TDC must enter into for identifying a provider?**

*This depends on the scale of costs - it doesn't always have to be put out to tender.*

*HortNZ is happy to work with council to develop scope and then review this with growers in the FLAG – with cost as an output.*

**What about industrial users – where do they come in?**

*Other sources of contaminants to plains in complaints records, roads? forestry?*

*Wastewater treatment – Bells Island is outside FLAG brief (discharge in CMA)*

*Benchmarking framework doesn't really apply to forestry – might need separate benchmarking.*

*Need to identify as many sources of contaminants for modelling – eg 40-60kg/yr N for any gorse in catchment*

**It is good to take a mountain-to-sea view when depicting the river.**

*River low flows and sediment issues are key aspects.*

*Will need to include Wai-iti and impact of Wai-iti dam to water flows in modelling and benchmarking survey.*

**Do need to look at sediment – and forestry – big perception that forestry causes sediment issues.**

**Other main issue is historic aspects for nitrogen sources.**

*Need to connect groundwater model with surface water expression of contaminants – preferably in a daily time step way, rather than an annual average– this will provide better information in long term.*

### **Do we have a list of consents for discharge of wastewater to land?**

*TDC consents database has information on current and past consents – but we do not always have complete information on wastewater discharges that are permitted activities.*

### **Chris Keenan is keen to organise a grower workshop to go through the existing codes of practice - start talking about it.**

*FLAG members thought it was a good idea to start the conversation as soon as possible.*

*Some users hold a perception that the water issue is a 'storm in a tea cup' and council can't do anything to change water and nutrients use by landowners.*

### **Next FLAG meeting**

<b>Date</b>	17 November 2014 (Meeting 6)
<b>Time</b>	9.30am - 4.30pm (note extended meeting time frame)
<b>Venue</b>	TDC Council chambers (with afternoon fieldtrip)
<b>Chair</b>	Nick Patterson
<b>Draft Agenda Items</b>	<ul style="list-style-type: none"><li>• Attributes</li><li>• Fieldtrip in afternoon</li></ul>
<b>Preparation</b>	na

### **Subsequent meetings**

<b>Date</b>	11 February 2015 (Meeting 7)
<b>Time</b>	9.30-3.30pm (note extended meeting time frame)
<b>Venue</b>	TDC Council Chambers
<b>Chair</b>	Nick Patterson

**FLAG MEMBERS PLEASE NOTE:** If you have any questions or need anything between meetings, then please contact Mary-Anne Baker by email: [marya@tasman.govt.nz](mailto:marya@tasman.govt.nz) or by phone ddi 03 543 8486.