

Acting to promote a sustainable high quality water resource and dairy industry—a Taranaki perspective

(address accompanied by power point)

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Yarrow Stadium
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**Basil Chamberlain, Chief Executive
Taranaki Regional Council**

The smiles that have greeted our recent rain emphasise one of the values that water has for us. Many in Taranaki are saying “it’s been a multi-million dollar drop of rain.” We increasingly prize water for many purposes – purposes which are often conflicting and in competition with each other.

So let’s look at two propositions: one, is to have a world-class environment including very high quality water resources; and the second, is to have a world-class, high quality, productive dairy industry.

The question is: are these two propositions compatible, especially as we move forward with not static, but increasing, community expectations in respect of environmental quality and similar expectations in the dairy sector of improved production, productivity and returns?

Framed in varying ways, this question is being more frequently discussed and debated throughout New Zealand, in bar-rooms, boardrooms, courtrooms and the halls of Government. It is one of the key examples identified when people talk about the sustainability ‘problems needing to be confronted’ in New Zealand.

It is recognised by some and it should be by all, as one of your industry’s key strategic issues. In my view, it is one of your potential make or break challenges, not tomorrow perhaps, but certainly in the medium term. Some of your leadership has recognised this, but I sense that recognition, ownership and engagement with accompanying action, have yet to



fully connect at a farm level. There is an increasing need for this to occur because 'the winds of change' are blowing.

Just in respect of Resource Management Act processes and activities, which is a quite narrow observation lens, it's a very busy scene at present. At the regional level there are significant and indeed groundbreaking Environment Court hearings under way in the Waikato, where land use rules to control water quality, the viability of nutrient markets and the water quality of an iconic lake are all being debated (the Taupo variations to Environment Waikato's regional plan). Our neighbours to the south are proposing similar but different approaches for the Manawatu, in their draft 'One Plan'. Canterbury is literally bristling with debate as major consent hearings for irrigation, to essentially expand dairying, are all turning into *de facto* and consuming regional plan hearings in the absence of an adopted regional water management plan (or natural resources plan as in Ecan's case). Southland is proposing to dramatically up their resourcing of compliance monitoring of agricultural consents.

At Government level there is also a lot of activity, as the Sustainable Water Programme of Action rolls out more products over the next few months including three RMA regulatory instruments, being two national environmental standards and a national policy statement for freshwater.

Questions such as the ability of our regulatory instruments and processes to deal with taking into account cumulative effects, or for them to give full and appropriate recognition of the need to integrate land use with water management, or for them to be adaptable and accommodating to rapidly changing land uses, are all seemingly moot.

Further questions relating, for example, to the adequacy of water allocation mechanisms such as first in/first served, the ability to transfer water permits, whether common catchment expiry dates can be placed on consents, or whether regional plans can be lawfully used to prioritise between different water uses, the adequacy of our science, the adequacy of our approach to planning and providing water infrastructure with particular reference to public vs private sector roles, and the adequacy of our compliance and enforcement, are presently much debated in an often ill-informed way.

We seem to even have difficulty with the fundamental question of whose water is it – who owns water, with its ever increasing value?

Resource management processes are by nature often complex, challenging and adversarial. When resource allocation decisions are on the table and the stakes often quite high, we must expect to be presented with some very partial views of what's right and wrong, what can and can't be done, and what should and shouldn't happen – all of course claiming the 'God is on my side', public interest high ground.

Resource management law is at its core, a values-based jurisprudence. There are no axiomatically right or wrong answers. Disciplines such as science and economics do not provide answers as some might suggest; they simply inform decision makers. Rather, decisions gain integrity because they move through a process of public participation and are subject to the checks and balances of our pluralist, democratic processes and systems. One outcome is generally certain and that is, there will be winners and losers. No one should be surprised if the losers look to criticise the winners, the processes (the RMA), or the referees (Judiciary, councils, Government), or all three.

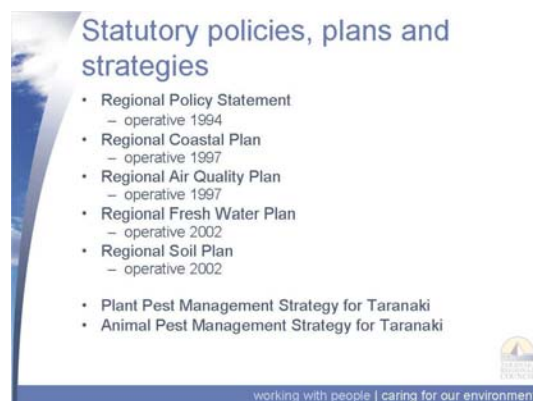
Amongst all this planning, talking, strategising, litigating and posturing though, it is important to remember that talk is ultimately cheap—actions are what will take things forward or backwards.

The question of whether our dairy industry ambitions can align with our sustainability objectives is for me frankly a little academic and trite.

My answer is they never quite will or can - such is the reality of the resource allocation business. It involves tradeoffs. Just as self evident, is that we must all commit to minimising the misalignment, to mitigating the tradeoffs. New Zealand simply must be 'top of class' or close to it, in both these fields of endeavour. We simply do not have an alternative viable option. The concept of sustainable development is important for our world community, but it has acute focus for us as New Zealanders, simply because of where we live, the lifestyles that we treasure and the way we earn our crust with such reliance on external trade from our primary industries and from visitors.

With combined proactive investment and action programmes where a common goal of 'sustainable dairying' is shared, I believe that we are capable of surprising many doubters as to just how close we can get to the compatible alignment of environmental and dairy production objectives in many parts of New Zealand. I am not a sceptic or a pessimist in this regard, but I also note that we will fail dismally if we do not share, own and act towards the common goal. We are some way from being in that space at present, but together we have come a long way in a few short years.

As some evidence of this and basis for my confidence, I want to briefly share some of what is happening in Taranaki water management as it relates to agriculture and dairying. The Taranaki Regional Council (TRC) has placed emphasis and attention on getting our policy and strategy instruments in place as early as possible. The Taranaki Regional Policy Statement (RPS) for example, is now approaching ten years since adoption and is progressing through its mandatory ten-year review. For several years now, we and our community have moved past the talk phase and have been focusing on implementation - on action!



Over the past two decades our community, and in particular our farming community, have engaged in a range of regulatory and non-regulatory programmes to meet water management objectives, that we have jointly identified as being very important. The value that people place on our environment including water quality is now very high. In a survey recently undertaken jointly by all of Taranaki's councils, aspects of the biophysical environment featured in four of the top ten things people most valued in their lives. The clear message is that environmental degradation is now a politically untenable proposition in Taranaki and I believe this would be true of the rest of New Zealand.

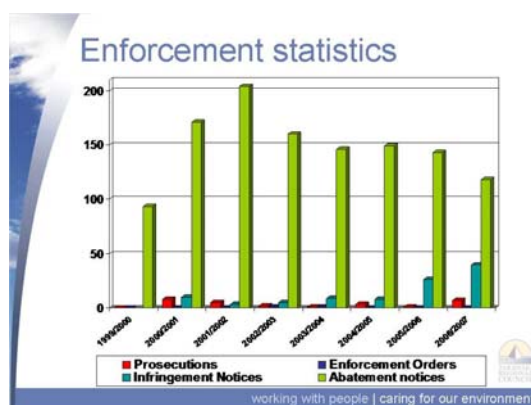
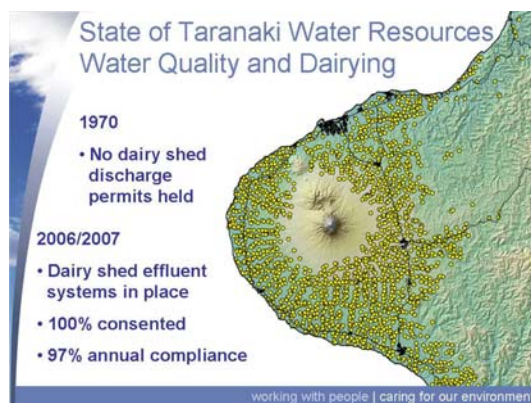
Looking briefly at our main regulatory programme related to dairying, for many years the TRC has required consents to be obtained for all dairy shed effluent discharges whether land or pond-based systems. We have never permitted land discharges to occur without specific consents and associated monitoring because these systems have often proven to be the most

problematic in terms of management practices and pollution. We have long had a rigorous monitoring system in place with features such as experienced, well-trained staff inspecting every farm system at least annually, staff who are rotated to ensure consistency and supported by slick 'IT'/database systems that drive effectiveness and efficiency. We require and for many years have enforced compliance where necessary, without fear or favour.

Until very recently, the TRC annually issued more abatement notices, infringement notices and prosecutions than pretty near the rest of New Zealand put together. This was not a source of pride. Enforcement is actually damned hard and at times stressful work. But the Council believes very firmly in two principles about rules and regulatory approaches. The first is to have as few as are necessary. The second is to monitor and enforce compliance when you do impose rules. This seems self evident to us, but equally evident is that New Zealand, like many OECD countries, seems littered with rules from regulatory agencies that in many cases are probably unnecessary or seemingly ineffective, but frankly, who would know or be really able to judge, because compliance is also poorly monitored and enforced.

All of our farm dairies hold the required discharge consents. Compliance is generally very good. Our re-inspection rate, which is our key measure of non-compliance, generally runs at between 2% and 5%. Whilst we would always like it to be lower, this level is a really solid achievement when compared to any like compliance situation that is properly monitored. You will always get the few who don't seem to quite ever get the message – *c'est la vie!*

This compliance programme was originally conceived decades ago, as necessary to protect a public resource, water, from pollution from dairying activities. When commenced it was strongly opposed by many farmers. I think now, that it is viewed by a growing number of farmers as also having a role in protecting dairy farming's future in Taranaki. As emphasised in recent Court decisions, consents confer rights and protections as well as obligations, which is why compliance to underpin the integrity of consents, is fundamentally critical for all parties



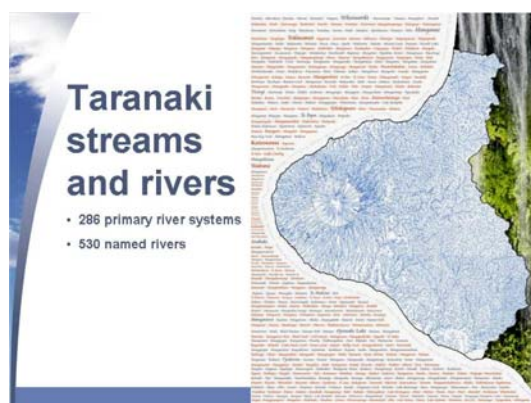
concerned.

On the non-regulatory side, our main programme has been to promote voluntary riparian fencing and planting to reduce water contamination from pasture runoff, or from diffuse runoff as opposed to point source contamination. The main target of course, is nutrient reduction from animal waste and fertiliser deposits. We have adopted a non-regulatory approach to this issue for three main reasons. First, we are not in a nutrient 'nasty' situation, notwithstanding some slightly negative trends - in other words we have some time.



Secondly, we think any regulatory tools would be risky as to their efficacy; they would be pretty experimental, blunt and economically potentially poor investments. Thirdly, we really want to provide our farming community with every opportunity to capture all of the benefits of doing this work on a voluntary basis, that is, the wider benefits of being leaders in environmental management systems, as opposed to being led.

So far, our farmers are taking this opportunity, but for many the hard yards are ahead. For Taranaki as a whole, riparian fencing and planting is no trivial task. We have a dense drainage network with thousands of kilometres involved. The Council supports farmers by providing, free of charge, property specific riparian plans designed in conjunction with the farmer. Most farmers now have these plans. We also bulk order suitable riparian plants from all over the North Island to provide to plan holders at bulk discount prices. Things are moving in a very progressive and serious manner. We have ordered around 300,000 plants for this year and as a region can already boast a landscape altering, water management programme that is significant by world standards.



Congratulations are due to those many farmers who are getting on with the job. But there are still many who are not quite 'getting with the programme' as my kids would say. Although we have around half of our streams fenced and planted, most of this is historical as opposed to recent work. We should be now starting to approach 1,000,000 plants per year if, for example, we are to meet the 2015 targets identified in our jointly-signed and owned regional action plan from the Clean Streams



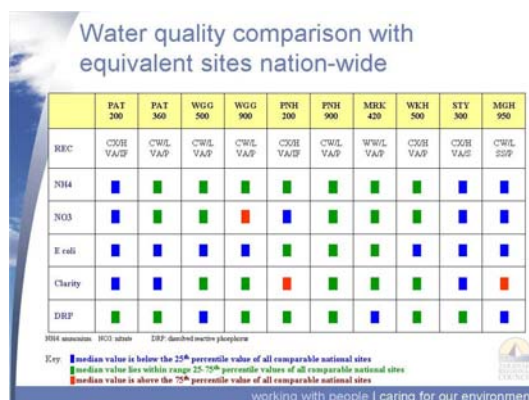
Accord. Bureaucratic bleating from the likes of me or indeed your Fonterra bureaucrats will only go so far in encouraging action. More effective, will be the continued and even more engaged leadership of farming leaders. I encourage you all, but especially those of you from Taranaki in this case, to be these people and to take us to home base on this and our other related programmes.

physicochem samples. Invertebrates live in streams and so reflect the constant changes that occur over time. Better quality water attracts more diverse and pollution sensitive residents. Indices have been developed to allow ranking comparisons between and at sites over time.

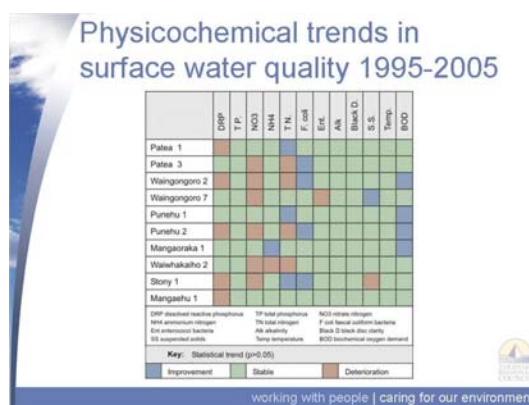
Just before displaying some of these data and findings, let me simply note that water quality science is still very much a work in progress. To varying degrees, science only informs decisions. That is as far as science can and should take us. Despite the often very confident and seemingly all-knowing presentation of water quality science and indicators, care should be taken in their use and interpretation. In last Saturday's Herald, economics professor Tim Hazeldine quoted the late, great Harvard economist, J K Galbraith as saying 'economists make predictions not because they know, but because they are asked'. Undoubtedly true of economists and undoubtedly over critical if applied to water quality scientists, but in general, water quality indices used as guides to policy and actions are fine, but their use in regulatory instruments should be approached with great caution. They will almost certainly result in some unnecessary, clumsy and costly behaviour with uncertain outcomes, over and above the normal risks associated with any form of regulatory intervention. I pause to make this point because it is very relevant to our present moment in time.

So, to take another of my favourite Galbraith quotes 'One measure of an idea, though economists have not always thought well of it, is whether it works!' Let's look at the numbers as they present against certain standards and also the trends present.

In respect of our physicochemical data, we see a little bit of a mixed bag, not atypical of New Zealand. We don't meet all of the use standards, the standout failure being stock water standards. But then we never have met this standard and even if we all left New Zealand with all of our cows tomorrow we still wouldn't. Few streams in the world meet this test and almost half of the rivers in New Zealand's national parks and reserves don't. Our wonderful wildlife and birds in particular, many being as loose as the proverbial, are significant culprits. This is one of those cases of needing to be careful of standards and their potential inappropriate application. By comparison, our water quality is high in relation to the rest of New Zealand, noting that New Zealand's numbers generally compare very favourably internationally.



We have seen some good, positive trends, especially in reducing organics (BOD levels) and faecal coliform/bacteria levels. When I first started in this business, bugs were the big target for reduction, far more-so than nutrients and for good human and animal health related reasons. They remain, in my view, the main public water quality enemy and across New Zealand and especially in Taranaki, we have made great progress. This has come about not by fluke, but by hard work, mainly through regulatory approaches to cleaning up point source discharges. BERL has conservatively estimated that tens of millions in capex has been provided to produce this and related good water quality results in Taranaki, with ongoing operating costs of tens of



millions per annum. Dairy farmers' efforts have been a significant component of this as, too, have been major positive changes on the processing side of the business, part through rationalisation and part through specific new investment such as has occurred at Whareroa.

We have also seen a few negative trends, such as for nutrients. Our N and P levels are none-the-less coming off relatively low levels and over the last, roughly five years, it looks as if P levels have stabilised which makes sense to us given the reductions in phosphatic fertiliser application that have occurred. This is important for us, for as you will know it takes both nutrients working in tandem to grow plants such as stream algae. Our streams, like most in New Zealand tend to be P, as opposed to N limited, so our P trends and levels are of most acute interest. Riparian fencing and planting is also probably more effective in controlling P than N because of the differences in the transport pathways of N from P compounds.

So we are not desperately concerned about our nutrient situation and believe that the riparian programme is a good proactive investment alongside the wide range of other significant initiatives and drivers present within the industry and market place, to secure our water quality from the 'ravages' of N and P as we move forward.

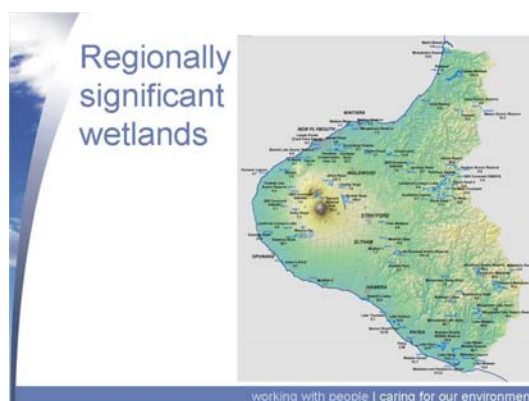
As an aside I was also very interested to recently note a fascinating combined Agresearch/NIWA paper delivered at the recent fertiliser conference at Massey in February. Using data from 1100 regional council rivers and lake sites from around NZ, the scientists were examining whether they were N or P limited and their susceptibility to periphyton proliferation. The executive summary read as follows:

The DIN:DRP ratio indicated that P-limitation was the most frequent scenario in New Zealand (76% of sites P-limited, 12% N-limited and 12% co-limited). The DIN:DRP ratios were then combined with median concentrations to predict periphyton densities in a year This indicated that 49 sites exceeded the periphyton guideline for protecting benthic biodiversity (50 mg chlorophyll-a m⁻²).The predominance of P-limitation of New Zealand rivers and streams suggests that a cost efficient approach may be to focus on mitigating P losses more than N losses, but this should only be done in the most extremely P-limited cases

Some good signs here of scientists thinking strategically, not about the N wars or P wars *per se*, but concentrating on the actual enemy being the effects of these two nutrients working in tandem in certain water conditions and how to be effective in exposing and then attacking the 'Achilles' heel'. One of the first rules of war is 'to know your enemy' and one of the first rules of combat is 'to identify your target'.

We acknowledge that this P 'Achilles' heel' may not be an appropriate point of mitigation effort throughout New Zealand, especially for some of our lakes where the limiting nutrient is more likely to be N, long nutrient travel lag times are often present, and precaution in respect of resources that are relatively complex systems and that have world class quality, is not an unreasonable approach.

Turning to Taranaki's few lakes, they seem to be 'doing OK', again similar to the national situation where lake quality has improved at almost as many locations as where deteriorations have occurred. By international comparisons our lakes continue to generally be world beaters with most



exhibiting little discernable change over time, notwithstanding the occasional and appropriate attention given to the long-standing issues at the likes of the Rotorua lakes as occurred recently.

In respect of our wetlands, we have identified 77 regionally significant wetlands. All have a degree of regulatory protection but the majority now also have the additional protection of being covenanted with the QE 2 National Trust, or some similar mechanism. This has occurred on a voluntary basis, mainly in the last decade. We only have about five left without covenant-type protection on our dairying country – not a bad effort considering most of us didn't know that these 'swamps' were so ecologically important, until quite recently.

Our shallow Taranaki ground waters are showing improvements, which frankly we have difficulty in explaining. Nitrates on most recent data trends are decreasing across the 65 sites we measure, contrary to the more common trend of increase elsewhere in New Zealand, especially in dairying areas. Levels are now almost all within the drinking water standard, which I might add is another of those controversial standards.

Finally to the results that have frankly 'blown us away a bit'. What has been happening to our freshwater invertebrates? What are these indices telling us? Well, of the 51 sites we have been measuring for several years, we can identify with quite high statistical confidence that there has been no significant deterioration anywhere, which is great. Equally so, is that 16 sites show a definite improvement. These are great results and our farmers deserve their share of the credit, alongside many other resource users who have 'walked the talk' in the last couple of decades.

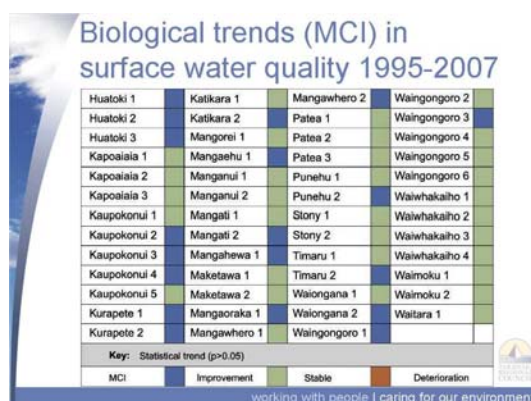
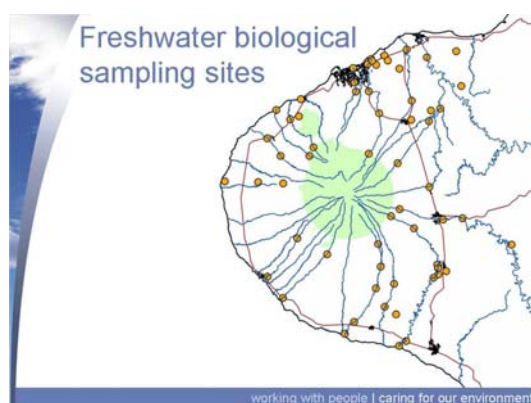
Time has required my presentation today to be limited essentially to water quality matters, a key concern for Taranaki, but which of course, are but a part of the wider water management challenge, which in turn, is but a part of the wider sustainability challenge. Water efficiency, allocation and demand management, waste management, pest management, carbon management, energy efficiency - these and other subjects will all form important components of the sustainable dairying challenge, threats and opportunities going forward.

Wetlands - progress

- All wetlands are "protected" by the Regional Fresh Water Plan
- 77 "regionally significant" wetlands identified in Fresh Water Plan
- 46 of these are now also "legally" protected by covenants, Council MOEs or are in public conservation estate



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As I have noted earlier, we can reasonably successfully work through these seemingly conflicting production/protection objective situations provided that we respectfully work together to achieve the common goal. Sustainable dairying or agriculture will simply require this to occur. There will be some tradeoffs to be made, but these can be minimised by proactive engagement and importantly by getting on with doing the things that will assist. I encourage you to keep taking leadership roles with your neighbours and especially in respect of these environmental issues. It is so much more advantageous to be leaders than to be led. Many of the World's major corporates work in this proactive way, simply because it is smart business, both in the short term and for securing their long-term business futures.

Successful business strategies essentially require the coalescence of three fundamental attributes. First is the need for clear purpose and good ideas/products. Second is the capacity to deliver and third is the support from the range of stakeholders that are necessary to make you successful. All three components of this 'should do/can do/people want' success formula are required, if failure is to be avoided. This simple model is what we have used as the basis for taking the TRC forward in its role. We have sought to develop sound policy and programmes and to put in place the capacity or resources to professionally deliver on them.

We have worked carefully on developing the relationships and support that we need. For example, we identified pretty early on that resource users were a bunch of people that we simply had to have effective relationships with. This is one of the reasons why we have retained our Taranaki Regional Council 'brand name', rather than for example, 'Environment Taranaki'. Apart from not wanting to tacitly support the view of some that we may be off the planet at times, we felt that something like 'ET' would be unhelpful in developing effective relationships with perhaps our most important business relationship group, our farmers.

The TRC is extremely committed to assisting dairying to be as successful as is possible, as far into the future as can be reasonably foreseen. In other words, we are committed to the goal of sustainable dairying. We believe our farmers generally recognise this. We all share the common goal, but have acknowledged different roles.

From many of my recent travels around New Zealand, I am concerned that these constructive relationships with councils and indeed the broader community do not exist everywhere. There seems to be quite poor comprehension of the industry and of its role in our society including its environmental challenges, but also by farmers of the strongly held expectations of the broader community. Frankly there is seems more distaste and perhaps a little envy present, than national pride and goodwill – too much of 'them vs us', town vs country, instead of 'The Country' working together to achieve our combined ambitions. With respect, you cannot be all that you seek to be as dairy farmers without the informed support of New Zealand and New Zealanders and the converse also applies. It is important that your industry strategically focuses on its perceived role and image in the broader community as a precursor to enabling constructive actions towards a sustainable dairying future that sits at the heart of New Zealand's economic, social and environmental prosperity for the foreseeable future.



Thank you for your efforts, especially those of recent years. Much has been achieved with good evidenced based outcomes. There is much more to do – what’s new in that? As with addressing all aspects of business development, the need for continuous improvement is a constant. I have long held the view that in general, New Zealand farmers are the most responsive, adaptive and resilient business people we have – you have had to be with the exposures that you have faced through the generations. Once, as a group, you fix on a challenge, own it and act to address it, you can move very quickly and successfully. I invite you to take all of the necessary steps to fully engage in addressing combined environmental and production objectives at the farm level as core business and to be leaders in this area, as only you are capable of. Please dare not leave it to others to do anything other than assist you and try to keep up.



Thank you for your invitation.

B G Chamberlain
Chief Executive
Taranaki Regional Council

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