NRP PC1 – HS3 Day 1

# Greater Wellington Regional Council

## HEARING STREAM 3

**Rural Land Use, Forestry and Vegetation Clearance, and Earthworks**
**Version 4**

Date: Monday 26th of May 2025

Hearing Stream: Three

Venue: Greater Wellington Regional Council Chambers
100 Cuba Street, Te Aro, Wellington

Hearing Panel: Dhilum Nightingale (Chair)
Sharon McGarry (Deputy Chair)
Gillian Wratt
Sarah Stevenson
Puawai Kake

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[NRP PC1 – HS3 Day 1 – Part 1]

[Begins 00.52.20]

Ruddock: *Tukua te wairua kia rere ki ngā taumata*
*Hai ārahi i ā tātou mahi*
*Me tā tātou whai i ngā tikanga a rātou mā*
*Kia mau kia ita*
*Kia kore ai e ngaro*
*Kia pupuri*
*Kia whakamaua*
*Kia tina! TINA! Hui e! TĀIKI E!*

Chair: Tēnā koutou katoa. Nō Hīraka aku tīpuna, nō Pōneke ahau. Kei Tapu-te-Ranga au e noho ana. He rōia ahau. Ko Dhilum Nightingale tōku ingoa. Nō reira, tēnā koutou, tēnā koutou, tēnā tātou katoa.

Good morning everyone. My name is Dhilum Nightingale. I am a Barrister in Kate Shepherd Chambers and an Independent Hearings Commissioner and a Freshwater Commissioner. I live in Taputeranga Island Bay in Te Whanganui-a-Tara. Nau mai haere mai. Welcome everyone to the first day of the hearing of submissions for Hearing Stream 3 on Proposed Change 1 to the Natural Resources Plan, which is of course the Regional Plan for the Wellington Region.

This hearing stream, this whole week, we are in the Council Chambers. It is very nice to be back here again.

We'll do some introductions shortly but Mr Ruddock should we run through some brief health and safety messages?

Ruddock: Thank you Commissioner. To those who haven't been here before, facilities, toilets and washrooms are located just outside of the main door at the back of the room. If you follow the corridor to the double doors, turn left and then turn right. It's just around that corner. If you get lost then any Council staff will be able to help you.

In case of a fire, if the fire alarm sounds, please head towards the exit located behind the Commissioners' seats. Do not re-enter the building until the 'all-clear' is given by staff. If you require assistance during evacuation please come straight to me.

In the case of an earthquake drop, cover and hold. Do not evacuate unless instructed to do so. Wait for the shaking to stop and then follow the instructions of myself or the safety wardens.

As for the microphones, please ensure that you are muted when not speaking. The microphones have a green light that indicates that it is turned on but not live, and a red light that indicates that it is on and live. Only three microphones can be active at one time, so if yours is not turning on someone else will have to turn theirs off.

[00.55.00]

If all speakers can please introduce their name before any instance of speaking for transcription purposes. Those joining online will have their cameras and microphones locked to 'mute'. These will be unlocked for you during your scheduled speaking time-slots, or upon the request of the panel.

The Hearing Advisor will ring a bell that indicates certain time points. One ring indicates that there is ten minutes left to your speaking slot, and two rings indicates that the submitter's time-slot has ended. However, the Panel may choose to continue the submitter's time-slot if suitable.

Thank you very much.

Chair: Thank you. We are the Independent Hearing Panel that will be hearing submissions and evidence, and making recommendations to Council on Proposed Change 1. We are sitting as two panels with fully overlapping membership and will jointly hear and consider both the freshwater and non-freshwater provisions. We have been delegated to make recommendations to the Regional Council.

I have been appointed as the Chair of both panels and Commissioner McGarry is Deputy Chair.

We'll do some introductions now, so you know who we all are.

McGarry: Mōrena everybody. My name is Sharon McGarry. I'm an Independent Commissioner based out of Ōtautahi, Christchurch.

Kake: Ata mārie tātou. Tēnei te mihi ki a koutou. Ko Puāwai Kake tōku ingoa. He uri tēnei nō Ngāpuhi me Te Roroa.

I am an Independent Commissioner and a Planner based out of Whangarei, Northland.

Wratt: Kia ora, morena. I'm Gillian Wratt, Independent Commissioner and Freshwater Commissioner. I have a background in the science sector and am based in Whakatū, Nelson.

Stevenson: Ngā mihi nui kia koutou. Ko Sarah Stevenson tōku ingoa. I'm an Independent Planner and Commissioner based here in Te Whanganui-a-Tara, Wellington.

Ruddock: Tēnā koutou katoa. Ko Josh Ruddock ahau. I'm the Hearings Advisor for Greater Wellington.

Nation: Kia ora, morena everyone. My name is Thomas Nation. I'm a Spatial Analyst and Director at Collaborations based here in Miramar, Wellington.

Blyth: Kia ora tātou. Ko James Blyth tōku ingoa. Kei Lower Hutt ahau e noho ana. Kei Collaborations ahau e mahi ana. Tēnā koutou katoa.

I'm a Water Scientist and Director of Collaborations and I'm here to help out on any of the water use and I guess sediment in forestry. Thanks.

Greer: I'm Doctor Michael Greer. I am the Technical Lead for Greater Wellington's whole plan change process.

Vivian: Mōrena. Ko Alisha tōku ingoa. I'm the Reporting Officer for the earthworks topic Policy Advisor here at Greater Wellington.

Watson: Kia ora koutou. I'm Shannon Watson. I'm the Reporting Officer for the forestry topic.

Willis: Mōrena. I'm Gerard Willis. I'm the Reporting Officer for rural land use based out of Auckland. Thank you.

Peryer: Kia ora koutou. Ko Jamie Peryer tōku ingoa. I work here at Greater Wellington as a Senior Environment Restoration Advisor and am providing technical evidence on rural land use issues.

Anderson: Tēnā koutou katoa. Ko Kerry Anderson tōku ingoa. Good morning everyone, I'm Kerry Anderson, one of the Council's lawyers and I am here today with Ms Manohar. Ms Manohar is dealing with rural land use and earthworks matters and I'm dealing with forestry and vegetation clearance.

Chair: Thank you very much everyone. As the officers have said, this hearing stream is all about rural land use, forestry and vegetation clearance and earthworks.

There are more than 2000 originating submission points and an additional 2000-plus further submission points on these topics, so there's significant interest in the community amongst the territorial authorities, private entities, tangata whenua and NGOs.

These topics of course are very important issues for the region and they look at how specific activities are to be managed and limits and standards set to achieve the whaitua specific objectives, polices and target attribute states that were the focus of Hearing Stream 2.

We would like to acknowledge the significant work by Council Reporting Officers, Mr Willis, Mr Watson and Ms Vivian – and the technical experts all involved. Thank you very much for all of your work and helping us and submitters to more deeply engage and understand these provisions.

[01.00.15]

Of course we acknowledge the engagement of submitters, their representatives and experts. We look forward to discussing your submissions in evidence with you this week and hearing more about the issues that matter most to you in these topics.

We have all read the material you have prepared. Submitters, we do encourage you to focus on the points of contention and the areas where the Reporting Officer's rebuttal provisions do not align with the relief you are seeking, why you disagree with the officer's latest recommendations and what is the impact of your relief not being included in the Regional Plan.

If you are not presenting this week, we also note that we have considered your submissions and will be assessing them as part of our recommendation report.

Finally, thank you to Mr Ruddock and all the Council staff working behind the scenes to organise everything for this week and the hearing schedule.

I think maybe just a reminder to turn cell phones and laptops to silent. Before we turn to the Council's legal team, are there any matters of procedure or any issues that anyone would like to raise before we start?

We would like to raise just one. There was some supplementary evidence that came in late last week and also supplementary legal submissions. We have had at least one submitter raise an issue with that coming in outside of the timetable and concerned that there hasn't been enough time for them to consider that before hearing starts. We have all had a chance to look at it and we do note the submitter's concerns. It is obviously our strong preference that material is filed in accordance with the timetable. What we would ask is that the officers when presenting over the next two days can identify the issues that are in the supplementary evidence and where that differs from what was in their rebuttal; and maybe the same as well for the legal submissions.

We don't feel that we want to exclude that material, but we do note the submitter's concern with it being filed late.

If there's nothing else we'll pass over to the Council's legal team.

Anderson: Thank you. Just to clarify on that last point – the Council filed rebuttal legal submissions. It didn't file any supplementary legal submissions. As far as I am aware, the directions from the Panel didn't include directions for rebuttal legal submissions, so we filed those as soon as we could after the rebuttal evidence being in – which I think was the middle of last week.

Those submissions are probably relatively short and really deal with one issue, which is the issue around whether the rules regarding forestry can be more stringent than the NES for commercial forestry.

You might recall back in Hearing Stream 1 we did a sort of an overview of how NES's relate to Plan Change 1 Provisions and how you refer to it in terms of the title; but the issue for this hearing stream has really been around the stringency issue and that's what is set out in the legal submissions.

The starting point for that really is Regulation 6 of the NES itself, which is set out at paragraph 3 of the rebuttal legal submissions, and effectively that allows a rule in a plan to be more stringent than the NES where the rule is giving effect to an objective which itself gives effect to the NPS-FM.

[01.05.15]

In Mr Watson's report, the rules regarding forestry are more stringent than the NES and therefore that Regulation 6 is in place of this hearing stream and the Panel needs to be satisfied that test or criteria in Regulation 6 is met.

As noted in the rebuttal submissions that were filed, the submitters, there's some competing views on this issue. Some say the rules should be more stringent than they currently are and others say they should be less stringent. So there's not a consistent theme.

The case that's been focused on pretty much throughout the submissions filed is the Rayonier case from Canterbury and that was a High Court decision on matters of law – so it wasn't a merits assessment in that case. I'd say the guts of what that case concluded is that the s42A officer in that matter had gone through and looked at the sediment discharges from forestry kind of as a whole around New Zealand and hadn't put the Canterbury focus on it. In the s42A Report it just simply wasn't assessed at all.

The court in that case said you can't just talk about sediment discharge generally across New Zealand. You do need to look at the Canterbury focus and why more stringency is required in the Canterbury area.

That, I think, is really summed up in the quote set out at paragraph 11 of the rebuttal submissions where it said, "In that case, the Panel is required to be satisfied there was good reason arising from the circumstances of the Canterbury region to impose greater restriction on plantation forestry that has the potential to cause sediment discharges than those that appear in the NES."

In my submission it is not really the same situation as we've got here in Plan Change 1. Mr Watson has explained in the s42A Report and his rebuttal the reasons for the approach taken in terms of the more stringent rules that he's

proposing. There is no omission of Wellington specific information which was the issue in that Canterbury case.

I think the submitters who are concerned with the "it's too stringent" side of the equation have really focused on that issue of whether there is an evidence base that is enough to justify being more stringent than the NES. In my submissions it's important to go back to what we were talking about in Hearing Stream 2, that we had referred that lens of the NPS-FM, in that what is enough or sufficient information is different when you're looking at an NPS-FM provision; and the ultimate direction in that clause 1.6 about using the best available information is that you need to interpret it in a way that best gives effect to the NPS-FM if you're not in the total certainty category around the information.

So that's what we have referred to as that lens and that applies here also for the NES-CF stringency issue.

It is submitted, for the reasons set out at paragraph 21 of the rebuttal submissions, that the exercise undertaken by Mr Watson does comply with the legal framework set out in Regulation 6 of the NES.

That was really all I had to say on that issue, but you may have questions.

McGarry: Thanks Ms Anderson. Pretty clear it can be more stringent, but we have to be very careful not to duplicate any regulation that's already there, is that correct?

Anderson: Yes. There's certainly provisions in the RMA – I want to state 43(f) but let me just find the correct one for you – around duplication and consistency. You can have, I suppose, 'similarities' might be the best way of describing it, when they are dealing or are aimed at a different issue from what the NES is dealing with. But, you're right, it is one of the s.43's. I think it's 43(b). Yes, and along with s44(a) as well.

[01.10.00]

Stevenson: Thanks Ms Anderson. I'm not sure if the format, or if your discussion was going to touch on other aspects, but regardless I'm moving on from the NES-CF question.

I'm interested in the issue that was a feature of Hearing Stream 1 – the October 2024 amendments precluding freshwater planning instruments being progressed. And, now we have two whaitua with an objectives and rules framework that is different from the other whaitua.

Again, I know you have answered it previously but it's very relevant in this hearing stream, how does the Council justify applying this materially different regulatory approach across whaitua boundaries – especially where land use and catchments overlap.

Anderson: So, the "materially different approach" meaning that you have two whaitua that are proceeding ahead of the others?

Stevenson: Yes.

Anderson: I suppose the starting point is there is nothing to prevent the Council in this situation that it is in proceeding with a freshwater planning instrument. It wasn't captured by that hiatus through the statutory amendments.

I would also say it's been signalled for quite some time that this was going to be the approach from when the proposed Natural Resources Plan first came out, and it had its individual whaitua chapters, and it was always very clear those whaitua chapters would be replaced with more detailed whaitua chapters as the whaitua process unfolded. That was really the justification for doing that. It was never the intention to do all of them at the same time, because the WIP committees were on different timeframes.

Stevenson: Thank you. I'm interested – probably the theme of consistency is coming through – but when you have activities with similar effects but they are being treated differently under Plan Change 1 (an example being the farming and the forestry land use activities) I'm interested in the different activity status that's provided for those activities; and from a legal perspective interested in how that different treatment of activities with similar effects aligns with s.32(1)(b), the bit that says "you must have the most appropriate rule to achieve the objectives and effects based planning system." Here we have effects that are broadly similar but have different activity status.

Anderson: From a legal perspective, I would say that there is no legal requirement that all activities that need to be treated the same, or the same approach. There's different ways that you can regulate activities. I think you can see that between the rural land use provisions and the forestry provisions.

In my submission, the plan change tests are pretty clear – which were attached, I think, to an appendix to our Hearing Stream 1 legal submissions; that you're looking at what's the most appropriate set of provisions based on the evidence in front of you for this particular topic.

I guess I would also say that not all activities are treated equal in any event, because when you look at the three dealt with in the Hearing Stream 3 process we have one group that's the subject of an NES and then the other two aren't subject to the NES. So they have a different starting point in any event. I wouldn't say there's a planning rule that says you have to treat everything the same that has similar effects. I think you will hear of it more from the officers about what the differences are between the three sets of provisions.

[01.15.00]

Chair: I don't know if this is something that Ms Manohar is coming to, but just a question actually about the stock exclusion provisions in PC1 and whether there are any similar relationship provisions in the stock exclusion regulations that talk about stock exclusion – basically a leniency or more restrictive type provision, and if that's something that you need to come back to us on that's fine. I'm just not sure if those regulations talk about what a regional plan can and can't do in terms of stock exclusion.

Anderson: Mr Willis might be best placed to answer this from a substantive perspective, but in the Regulations themselves there's a provision Regulation 19 which sets out that despite s.68(2) of the Act, a more stringent rule in a regional plan

prevails over provision in these regulations. So that's where that part of equivalency comes from.

Chair: Do you know if a regional plan rule can be more lenient than the regulations? I don't think the PC1 provisions are but…

Anderson: I can come back to you on that, but on the basis that s.68 sets out that where there's a conflict between a regional rule and a regulation the regulation prevails; and that provision only references more stringent rules. I'd say that's the only exclusion there, but I can confirm that and come back to you if Mr Willis doesn't cover that in his presentation.

Chair: Ms Anderson, the Rayonier High Court case, do you know if that talked about the requirements of s.34(2) of the Act? In particular, I'm just wondering – there's some words in that provision that talk about good reason arising from the circumstances. "Whether the prohibition or restriction is justified in the circumstances of each regional district." I'm just wondering if the court had gone into more detail about what that means.

These provisions, in quite a few instances they're saying, where the TAS is met. There's one approach where the TAS is not met and there's another approach and it's obviously very specific to the FMU's and part FMU's; and whether there is any authority from this decision that would support that approach based on discussion about what circumstances of each region or district needs.

Anderson: I think the short answer to that is no. It does refer to s.32(4) but because it found that the s.42A officer just hadn't addressed the issue at all and it's a matter of law appeal rather than a merits discussion it doesn't really get into it, because there was nothing for it to look at in terms of "what would be." I think what you're asking is "Does it help with what would be a justification?" and I think the short answer is no.

Chair: Reporting Officer Mr Willis.

[01.20.00]

Willis: Gerard Willis. Thank you Madam Chair and Commissioners.

My name obviously is Gerard Willis. I said I came from Auckland and I do, but I have spent quite a lot of time in Wellington; so I'm not coming down here without some local knowledge.

The other thing I was going to say by preliminary comments was that I was also involved in the Natural Resources Plan, the rural provisions and settling those a few years ago; so I have background in those provisions, which are really the provisions we are trying to in part replace and in part complement through Plan Change 1.

The only other preliminary comment I had was earlier at the beginning of the session you were handed a page, which is a replacement page. I was just going to briefly explain what that is and we can deal with the detail, if we have to, later on in the session.

As often happens, looking again at the s42A Report on Friday I realised there were some numbers that had been used in that table which had been superseded by a more recent iteration of modelling – so the numbers populated throughout that table were in fact incorrect. It doesn't make massive differences but if you could strike out the version of Table 1 that's on page-52 of the s42A Report and substitute it with that page that would align the evidence with myself and Mr Blyth in particular. I can explain what it's all about later on when we get to it.

Chair: Sorry to interrupt. I wanted to ask actually about that. The column C 'Load Reductions' are these updated in light of the officer's right of reply provisions for Hearing Stream 2?

Willis: Column C is the numbers that came from Hearing Stream 2 evidence, yes, of Mr Blyth. Yes.

I thought I would just let you know what's in the operative NRP now, in case you weren't aware of what we are trying to change or complement.

The NRP doesn't contain any comprehensive control over farming as a land use and associated diffuse discharges. It does have a number of rules which control specific activities undertaken on farms – there's a subtle but important distinction there. I have listed some on that slide in very small print – cultivation and break-feeding where there's setbacks imposed, for example; discharges from offal pits and farm dumps and the making and storage of silage, and the collection and disposal of animal effluence. These are all kind of I guess you would say 'high risk' and quite specific activities with identifiable discharge points often.

Those are controlled already. Those rules continue. They are not dis-applied by PC1. They continue through these whaitua as well as the PC1 provisions.
There are stock exclusionary rules already in the NRP which apply in the PC1 whaitua. I have to say the stock exclusions in the NRP are very complicated, but they don't apply comprehensively to every stream across the region or these whaitua. They apply but only in particular areas.

There is also a rule which probably won't ever be triggered in these catchments, but it does apply if you wanted to irrigate land – you would need a consent to irrigate farmland. You would need a consent under the NRP, and that also continues irrespective or in addition to the provisions in Plan Change 1.

The other thing that's also I think important and might be lost a little bit in translation is that although the NRP does not require Farm Environment Plans, except in limited cases (which don't apply in these whaitua), PC1 still relies on those Farm Environment Plan provisions in the NRP. There is a Schedule Z, if you've got that far through the NRP, which specifies the requirements for a Farm Environment Plan already in the NRP. They apply in PC1 as well.

[01.25.05]

So I guess what I am saying here is we need to just be careful in looking at PC1 and thinking that's not the only provisions that apply to rural areas and there are others. That Schedule Z is quite important and may have been missed, I suspect, by many of the submitters in listening to some of their thoughts and consents.

With that background, what are we trying to achieve through the rural provisions? There's a package.

I like to think of it as really a five strand strategy. We are focusing on rural land parcels with an area of pasture (or arable - these whaitua are largely pasture) greater than 20 hectares in size. On those properties PC1 are seeing to require a Farm Environment Plan be prepared.

The reason we chose that threshold was because it aligned with the National Environment Standards on Freshwater Farm Plans and Part 9A of the Act. Now that is under review, but at the time of writing that was the intention and we thought that it made sense to align the requirements of PC1 with that national framework.

The second strand of strategy is that we were going to require consent for any land use change which almost certainly will increase risk of diffuse discharge. Again this isn't a particularly new idea. This was actually part of the National Environmental Standards, Freshwater Standards that came out in 2020. They had a set of rules which had a very similar effect, but those were evoked at the beginning of this year. There was a five year transitional period and then they were revoked. So this kind of again backfills the gap that was created by revocation of those National Standards.

The third strand of the strategy is some increased stock exclusion obligations. As I said, there are existing stock exclusion rules. They don't apply in the Mākara and Ohariu catchment. In that catchment, as we'll talk about I'm sure later a little bit more, the national bottom line for visual clarity is exceeded; and so the thinking was we need to do more in that catchment and increase in stock exclusion obligations seemed a reasonable starting point.

Fourthly, the requirements for Farm Environment Plans are not just what's in the existing NRP but we have 'beefed up' if you like the erosion risk management provisions. That's not to say that the NRP provisions don't require erosion risk management, they do, but it's I guess a lighter touch. So what we have done to PC1 is to make a much more specific set of obligations and risk assessment to be carried out, to try and manage risk because sediment is the biggest of the contaminant discharge risks we have in these whaitua.

Lastly the fifth strand is the focus on the smaller blocks and what we were going to do with I guess what you might call 'hobby farms' and lifestyle blocks that were large enough that people were running large stock. These are always tricky to try and manage because the variability of risk is quite significant often.

What we decided to do through PC1 is to not require consent or to requirement to do a Farm Environment Plan but to register with the Council so that they would provide certain information. The Council would have a record of what was going on and they would do an annual nitrogen risk assessment – which uses a tool, which we will talk about in a minute as well.

That's essentially what the strategy boiled down to, as notified.

Do you want me to pause at certain points for questions, or are you just happy to chip in when required?

Chair: [Inaudible 01.29.48]

[01.30.00]

Willis: The submissions – the Chair has already indicated we had a lot of submissions throughout the rural provisions generally. We are just over 1100 on the farming provisions – that was 164 individual submitters, and 727 further submissions from 27 submitters. That is more than forestry. I think it's the second biggest across the whole plan change. Obviously a significant amount of interest, as you know.

To make sense of all that, I divided the analysis into ten issues in the s42A Report and tried to discuss the provisions around those ten headings.

The first of the issues, as it has been I think or is for all of the topics, was whether we have got the categorisation of provisions correct. Didn't have a lot of submissions on this but there were a couple.

As you know, there's a test that was applied to all the provisions which simply went something like, "Is it a coastal provision? No. Is it a freshwater? Yes. Does it relate to a matter of freshwater that's controlled or aimed at implementing the NPS-FM?" We applied that test. We ended up with only one new provision, that wasn't a freshwater planning instrument provision. That was Method 44 which refers to coastal matters. Then the disapplication of three policies also, because those were policies that currently apply in the coastal environment, but they were also deemed to be not freshwater planning instrument provisions, and so we ended up with a landscape that you can see there on the table.
The simple answer to that bit of analysis was that we recommend no changes to that categorisation of provisions, which seemed I think fairly clear-cut – in my perspective anyway. I think there was one provision which was talking about or questioning whether the sediment management were soil conservation provisions or water management. To my mind they are aimed squarely at visual clarity and suspended sediment and therefore are NPS freshwater provisions. So that was relatively straight forward in my opinion.

Chair: Sorry to interrupt Mr Willis. I did have one question about the categorisation.

Where a provision in PC1 – and I'm looking at Te Whanganui-a-Tara Policy 21 and sub-clause (d) of excluding stock from waterbodies in accordance with Policies P.108 in the operative plan – that policy is a coastal policy and it also restricts livestock access to the CMA. I don't think anyone has raised any issues with this, but it's difficult to know what becomes of a policy where it cross-refers to another policy that's a coastal provision. Do you have any views on that?

Willis: That reference to Policy 108 was put in as part of the rebuttal. I must admit I hadn't turned my mind to it earlier in the process.

I think I would interpret that, because it's within the policy that is which is relates to freshwater, I would read that as Policy 108 applies to the extent it relates to

freshwater; so we don't have a conflict. But, that would be an interpretation matter. That's certainly how I intended it to apply, put it that way.

Chair: In a way, sort of everything discharges eventually to the coast doesn't it.

Willis: It does eventually, yes.

[01.35.00]

McGarry: It might be one for the legal team, and it's not really a question, it's more raising whether we could maybe have a little bit more on this.

I'm very aware of a recent High Court decision from the environmental initiative v Canterbury Regional Council which basically said any discharge from the Canterbury Plains needed to consider the New Zealand Coastal Policy Statement, and that everything ends up in the sea. So I guess I've got a little bit of this in the back of my mind as well. I wonder whether it's the legal team that could perhaps have a look at that case for us and see if there's any implication here for the categorisation of provisions. I guess if you take it in the extreme it would be that every rule that you had on land that had any kind of consequential impact for the coastal area would be coastal related.

I just wonder if you could come back to us on that.

Anderson: Yes, we can deal with that in right of reply. The only thing I would add about that Policy 21 that's being referred to, is that it does refer to stock from waterbodies, which is defined to only be freshwater – the waterbody definition.

Chair: Mr Willis, that policy P.108 refers specifically to Category 1 and 2 surface waterbodies. There's excluding and restricting. Do you know if the Category 1 surface waterbodies are all freshwater?

Willis: The reference you're making is from which provision?

Chair: Policy P.108 which you have referred to in your rebuttal. The Category 1 surface waterbodies, are they all freshwater bodies – Category 1 and 2?

Willis: I think they include coastal waterbodies as well from recollection. I'm getting nods so I think I'm right.

Chair: Thanks. Sorry. We'll let you continue.

Willis: I talked about ten issues and we've just dealt with the first of them.

This is the balance of the substantive issues I suppose. The first thing I would say is "No, you're not missing Issue 3 and 9." That was a numbering problem from my perspective.

We have obviously a huge number of submissions. Submissions, as often is the case, covered a wide range of matters and were all over the place to a certain extent. This first issue of the overall approach sort of tried to pick up all of those quite disparate points. They were generally points that were very broad in scale and didn't necessarily have a specific relief sought. That's the biggest category

in that first overall approach issue – 400. We also obviously have a significant interest in the erosion management, as I mentioned earlier, but also the small block provisions and the stock exclusion. They form the bulk of the submissions we've got.

This little chart here is meant to be something of a road map. When I talk about the issues you'll be able to see what provisions I'm referring to in the right hand column. It's a little bit of a roadmap through the presentation if you like.

The next slide, this the core of the issues again. I know there's only six on this slide and not ten, but these are the substantive ones and the ones which got all the submissions, and the ones which required some technical advice to help resolve.

On this chart or diagram we have those issues with also the technical evidence that supports my planning position and recommendations on each of those issues. You will hear from those witnesses throughout the day in relation to those topics – although I have to say, they do deal with other mattes as well.

[01.40.00]

Issue 2, as I said, this is the 'grab-bag' if you like of everything that didn't fit anywhere else. They're mostly issues which have no specific provision, or which a broad relief is sought, or which relief sought is outside of the RMA or outside of PC1. There are some exceptions. There's nine sub-issues under this heading.

The first of them was simply around the cost of regulation. I think we had 62 submission points on this matter alone.

I guess I did what I could do, which was to ensure that I consider the cost and implications in all the issues and provisions. However, I didn't agree with those or do not agree with those who were seeking as a response to that cost of regulation that the Plan Change 1 take a non-regulatory approach only. I did that in large part because I don't consider that would be consistent with the provision to clause 3.12 of the NPS-FM which requires the plan change to set limits and to set limits as rules. So I don't think a purely non-regulatory plan change would have been or would be consistent with the NPS-FM as written.

The next large issue, getting a surprisingly large number of submissions points, I think about 55, on the question of pests and pest management. A lot of people are making the point that pests were a significant problem in the catchment and they would be contributing to water quality, and that often the Council should do something about that.

A lot of these, or I'd have to say in fact the majority of them were from the Akatarawa Valley residents. I think 50 of the 55 submissions at this point were from that particular group.

I think we all agree, and I certainly sought advice on this, that pests will be contributing. Council of course does have a pest management programme and spends quite a lot of money managing pests, but it is a very large problem.

I don't think we can take that issue much further. It was certainly something that needed to be addressed outside of the Plan Change 1 process.

One important set of general submission points was in relation to the non-regulatory support, the Council office. You will hear quite a bit about that from Mr Peryer, who is sitting beside me, later on this morning.

A lot of people were concerned about the specific wording of Method 44. There was a number of submissions seeking a greater sense of partnership, which I have agreed with, that we could better reflect the fact that managing outcomes in rural areas required a partnership between the land owners and Council.

There were several submitters who wanted the catchment challenges, conflicts and values, the CCCV, to be committed to, if you like, within that policy; that's the document that is required under the regulations, the Freshwater Farming Plan Regulations, to provide the kind of focus and context for the preparation of individual farm plans. It tells the farmer or the person preparing the farming environment plan or freshwater farming plan what's important in that particular locality.

I think it was Forest & Bird who wanted reference to wetlands, which I agreed was an omission and needed to be inserted. So there were some changes made or recommended in relation to that bundle of points.

There was a number of parties who wanted to see Greater Wellington do more and act as an exemplar in various ways, including through the management of its own parklands. That is something that I understand Greater Wellington is involved with already. I attached as Appendix 6 to the s42A Report a short document that summarises the **re-collating** [01.44.18] of the Papatūānuku Programme, which is a programme to replant parts of the regional park network. It was really more for information than anything I guess.

There is also two policies, one on each of the whaituas, that sought an increase in stream shading. They went in because of the need to drop water levels by stream shading in order to manage Periphyton risk.

[01.45.00]

There's a connection, as Mr Greer will probably tell you, between Periphyton risk, nutrients and shading, and other matters for that matter. Certainly we are aware that greater stream shading is required.

The only point that really needed to be changed here is that the policy currently as notified talked about stream shading purely in terms of its benefits to managing Periphyton risk, but in fact also there are other benefits and several submitters wanted those recognised. I think Ms O'Callaghan in Hearing Stream 2 had already picked up on a similar point. I am recommending some changes to that wording.

There were quite a large number of submissions in relation to clarity generally. When I did analyse those submissions it was fairly clear that most of them, although not all of them, but most of them were relating to the erosion risk

management mapping that you will hear quite a lot about this afternoon I suspect.

I deal with that more in detail later on, but I think in this case a lot of submitters perhaps hadn't appreciated that the maps were online in a scalable format. We had a lot of people I think looking at the A4 printout saying "It's not clear enough." I think that might have been a little bit of an understanding in many cases; but there are some substantive issues with the maps which we will deal with later.

We've have with the provisions dis-applied.

No amendments are proposed on the basis that retaining application policies would cause conflict: there were a number of parties who wanted some of those policies retained that had been dis-applied. My analysis is if we did retain those policies, although they look like they are helpful on the surface, when you actually analyse them and compare them, in my opinion you end up with a situation where you could have policies in conflict, and in a consenting context that could be problematic. So, I don't agree that some of those dis-applied policies should be retained. I think they are correctly dis-applied by PC1.

I'm not going to deal in detail with forestry, because thankfully that's someone else. There are a number of submissions and I think Commissioner Stevenson has already picked up on this point by the sounds of it, alleging that there is inequity or lack of alignment between the management of forestry and the management of farm land.

I think the management approach is different. I don't think the fact that it's not the same is in any way problematic. They are different activities. They actually might have a similar effect, but the activity that creates the effect is quite different and therefore a management approach that is different is entirely appropriate in my opinion. So, I didn't see a need to change the rural provisions for that reason alone.

I guess I've left the most interesting and important perhaps to the last on this list. This is a lot of submitters who believe that the general approach, or architecture if you like, of the way that Tables 8.4 and 9.2 worked was not appropriate. They believed that the impact of farming or their activities should be assessed at a smaller scale – off a catchment scale or individual property scale; not of the scale of the sites identified in those two tables. So, to be clear on what I'm talking about there, where there is compliance with the TAS they want that assessed at a property or at least a smaller catchment scale than PC1 currently promotes.

They also believe there's a lack of evidence. It's a related point really but they believe there's a lack of evidence that there were discharge contaminant loss issues associated with their particular area or their particular activity.

I guess in response I'd simply say that I've dealt with pretty much every water and land plan that's been out around the country over the last decade or so, and I don't think the approach that PC1 takes is any different to anywhere else. I think it's quite a natural thing for submitters to want, to be judged by their own

performance and not the performance of the collective, but unfortunately that's not the way we can do it – and any attempt to do so, I think would be quite unworldly.

[01.50.05]

I understand the point, but I think actually there is a collective responsibility and that collective scale is the only way we can manage for those particular risks.

However, having said that, Dr Michael Greer is going to give us his opinion on that particular set of issues because it's really in his area. He's got the expertise. I'll hand over to you Michael.

Greer: Thanks Mr Willis. Good morning.

I have three talking slots over the next two days. This specific presentation is only in relation to how the target attribute state sites manage cumulative effects. I also have forty minutes this afternoon for more detailed questions on the rural land use provisions. I guess for questioning, if it doesn't make sense to wait for the bulk of the questioning on my evidence until this afternoon then just talk about cumulative effects now.

As Mr Willis has raised, a number of submissions have pointed out a general concern that the target attribute state sites are located at the bottom of large catchments, and all emitters upstream are therefore being treated as a contributor to degradation at the target attribute state sites – regardless of their local water quality. These submissions are correct, that that is the case. The TAS not being met does impact everyone upstream, but that is by design; that is not an unintended consequence of the way the plan works.

PC1 is primarily focused on managing cumulative effects at a catchment scale, rather than direct effects at the farm scale. You could argue that the NPS-FM is the same in that regard.

The target attribute site network has been specifically designed with this in mind. Mr Blyth had originally done an assessment of the sites when looking at the part FMU boundaries and they are selected to reflect the land cover patterns across the part FMU they fall within, and the cumulative effects on water quality of that land cover.

In simple terms the target attribute sites can be seen as a reflection of the average impact of contaminant discharges and land use upstream, and achieving the TAS at the site can be achieved by firstly requiring that all streams meet the target attribute state set for the downstream site, and that drives improvements only at those reaches where local water quality is worse than the TAS.

The second option, which PC1 takes is requiring all emitters to reduce regardless of the water quality in their primary receiving environment, and that allows for an improvement in average water quality, but some unders and overs in the upstream catchment.

Whether that's the best policy option to take is obviously outside the scope of my expertise, but it does make sense from a scientific perspective, especially

given the NPS-FM now requires target attribute states to be set at sites. Setting targets for local water quality would apply a level of monitoring resolution that you could monitor local water quality everywhere, which is not realistic.

Also, there is a flipside to setting target attribute states that apply everywhere, and it's not necessarily making the targets more lenient. A lot of the submissions have raised the point that the target attribute state isn't being met at the site, but their local water quality is better. Or, the other side of that coin is that the target attribute state is met at the site, but their local water quality is worse than that. So it's not simply if they adopt the first approach that all of a sudden PC1 becomes more lenient. In many ways it would become more stringent because there would be a requirement to understand water quality at a finer scale and potentially push improvements in catchments where the Council has not identified they're needed.

On cumulative effects as well a number of submitters are both in the rural and forestry space and have questioned whether part FMU should include the receiving environment downstream of it.

[01.55.00]

There is four part FMUs this is relevant to. The Black Creek Wainuiomata urban stream is a part FMU and flows into the Wainuiomata rural stream part FMU. Actually there's more than that – there's five. The Te Awa Kairangi forested main stems and forested streams, and the Te Awa Kairangi rural streams flow into the Te Awa Kairangi lower main stem part FMU.

There's the question, and I think push for it not to apply, that the targets of the lower part FMUs shouldn't apply to all the part FMUs upstream. I am not sure if PC1 works that way, but from a water quality perspective it should. It is most important in the Hutt River because the part FMU for the lower main steam only includes the bed of the river. There is no actual mechanism to reduce contaminant losses into that part FMU without those reductions coming from the contributing part FMUs.

Ideally, in answer to those submissions, yes it should capture everything that it discharges down to.

That's all I have for this

McGarry: I'm just going to start from where we were then, rather than circling back. This cumulative effects idea, it's the policy about chaining again which we talked quite a bit about in Hearing Stream 2.

I can't help wondering hearing the comments (and that's for both of you) whether the policy should really just be targeted at aquatic ecosystem health. I am just very conscious in the last hearing that we heard that shading the streams is really about achieving a whole lot of different attributes. The wording as it currently is in (b) is still quite specific, where it says "nutrient reductions alone will be insufficient to achieve the Periphyton targets." So it's still very much focused on that Periphyton.

I just wonder whether there is an opportunity for this policy to be a bit broader about cumulative effects. I know that the chapeaux has been changed. It's "contribute to the achievement of aquatic ecosystem health," but then (b) gets quite specific again. I just wonder whether this could more reflect the cumulative effect and the achievement of more than just Periphyton."

Greer: I think the issue is with the term "stream shading" rather than "riparian planting". The introduction of the term "shading" really the benefits of that is in relation to Periphyton growth and temperature; whereas riparian planting has a whole heap of other additional improvements on ecosystem health associated with that, including reduced bank erosion, sediment stripping, nutrient removal in the riparian zone. I can't remember off the top of my head if there are other policies and objectives related to riparian planting separating from stream shading. I agree that riparian planting has a range of benefits. I guess if it's only used in the context of shading then it narrows down those benefits to kind of one or two.

McGarry: Mr Willis, any comment on that?

Willis: I would just start with the point that as the author of this original provision it was really aimed to address the point that you would have heard Dr Snelder raise in Hearing Stream 2 I think. I don't want to get into the technical side of it because it's also Dr Greer's patch and not mine, but my understanding of his evidence is that the nutrient limits that are in the TAS tables do presuppose a level of shading, and it was trying to make that connection that there was an integrated approach that involved both the nutrient management and shading which was important to achieve these outcomes.

I certainly agree that shading, which inevitably involves riparian planting, will have a range of other ecological effects. So to me, it's a matter of how you package those two ideas. You can certainly look at the wording. I don't have any particular issues with what comes first, but I just thought that acknowledgement of that role in shading was one with specific purposes of the provision and that there was some benefit in recording it expressly as we have.

[02.00.25] I certainly don't disagree but there's a broad range of benefits and ecological outcomes that could have a higher profile with some redrafting.

McGarry: If you could just maybe consider whether they could just be progressively shade streams, being sort of a high level policy direction.

Just jumping to FEPs, I was just wondering, just in the short fashion, whether you could give me a ballpark figure of what the cost of a certified FEP would be for an under 20 hectares versus an over 20 hectares?

Willis: I'm going to defer to Mr Peryer who is sitting beside me. He will probably address that when he presents a little bit later, so we could maybe park that. I know his evidence deals with an FEP. Generally he doesn't I don't think distinguish between the lot size in terms of what it costs. I think his evidence is about $3,000 or $3,500 as an average cost for an FEP. He will talk in detail about that a little later.

McGarry: So that was about the figure you had in mind when you did your s.32A analysis?

Willis: That's what is recorded in my S.32A analysis, yes.

McGarry: Just one final one, and it's your paragraph 84.

It's about the costs and benefits and you've said in paragraph 84, "However, as noted, there are some opportunities to significantly reduce cost without placing freshwater quality at greater risk."

I'm interested to know what you had in mind there, and whether you could just explain a bit more what you see those opportunities as.

Willis: I guess the opportunities are things that I've done now, or I've recommended, which is to make the various changes to a range of provisions. We'll talk about those changes in the next few slides, but it's the things like moving away from a requirement to register which obviously attracted a lot of submissions. That was one.

The changes to both the stock exclusion and the erosion management provisions I think both those, particularly in something like the erosion management provisions, where not only as we take the more flexible approach, or posing more flexible approach to identification of that risk land, we're allowing a wider range of options for treatment; so it's not just you have to go and canopy plant essentially an area, but there are other options including pole planting, including sediment traps and things, which might actually be a lower cost and more effective on addressing those issues.

It's really a range of things Commissioner that I had in mind I imagine when I was saying that.

McGarry: So it's the package really of what you're recommending.

Willis: Yeah.

McGarry: Thank you.

Kake: I just want to check the maps that you are referring to with respect to the part FMUs Dr Greer. Is it Maps 78 and 79, and might be 80 – just with respect to where those TAS sites are? I just want to make sure we've got reference to the correct maps of those sites.

Willis: The short answer is yes, but I will let Michael tell you.

Greer: Yes it's 78 and 79 I believe. I just wasn't sure if the sites were on those maps as well, but they're both on the same maps.

Kake: Thank you. This might be a planning question and it might actually just come up later on, but it is in relation to the FEPs as well. I'm stepping back and looking at the framework and looking at the regulations for freshwater farm plans, and trying to understand the interaction of Method M.44 as a non-regulatory method.

[02.05.00] Because those freshwater farm plans and the CCCVs are mentioned under the Regulations but they're a non-regulatory method, how does that work?

Willis: I guess there's a couple of points I would raise there.

One of the things I've been quite conscious of for a start is that the Freshwater Farm Plan Regulations are under review and there's been some reasonably strong signals that they're likely to be changed. In thinking about how the Freshwater Farm Plan Regulations work in this plan I had always assume, or we'd always assumed that Freshwater Farm Plan in an FEP as required in this plan would be one in the same thing and we would borrow, if you like, from the Regulations for a lot of that detail that would support the effective implementation of an FEP.

With the doubt that's now been raised about what the new regulations might or might not cover, I've had to rethink that a little bit and you will see a number of changes to the FEP provisions. They are really designed to ensure that the FEP can effectively work in isolation if needed from the national regulations.

Whilst the CCCV might currently be in the regulations, this time next year it might now be. It puts us all in a very difficult position, but that is what we have to deal with.

The idea to the extent that we think having some context to help those preparing farm plans in a properly focused way, that's a good idea that it just seemed to me to make sense, to require this plan to commit to that just in case things changed nationally as well. That was essentially the idea and that rolls out in other aspects of the changes of recommending as well.

Kake: I've got some more questions but I will wait until we get to the topic. Thank you.

Stevenson: I'm interested in the kōrero just about national direction, any changes and the pragmatic drafting I guess to accommodate that. I'm interested in I think it was Federated Farmers were concerned about potential duplication or perceived duplication.

Had you reconciled that potential overlap between Plan Change 1 and the NES freshwater stock exclusion regulations, etc.? Thinking about issues like stock exclusion and nitrogen fertiliser use, what is the rationale for including regional rules where there is national direction prescribing a way to deal with them?

Willis: I think the rationale was do we think the regulation goes far enough for the issues we have in this region, with these whaitua? Then secondly, does that national regulation allow us to go more stringent? If it does, if those two answers are yes, then we would have done something about it, which is what I have done with stock exclusion. We can talk more about that.

Stevenson: Thank you.

Dr Greer, I'm interested in the ten degrees slope threshold for stock exclusion. I know you support that ten degrees slope threshold as a trigger, but I didn't quite get from your evidence why that specific threshold is more defensible than other alternatives like land use, class or soil type. Beef & Lamb were concerned, and to Mr Willis' point arguing for farm specific or more specific controls, I would just like to understand the scientific rationale for that ten degrees slope threshold.

[02.10.00]

Greer: I think you might be referencing my primary evidence which discussed how much of the stream is in within.

Stevenson: Sorry.

Greer: Those low slope maps were from the previous Regs. They weren't a recommendation, it was simply an exercise of overlaying those, rather than saying "stock exclusion". The stock exclusion rules should be applied to slope less than ten degrees.

In terms of the benefits of stock exclusion, what you see is that you need wider and wider setbacks the steeper it gets. In terms of the amount of land loss, it will increase significantly as your slope goes up. I am guessing there's a discussion around pragmatism inside central government around where that ten degrees was set.

The whaitua scenario I originally looked at fifteen degrees I think as the definition of low slope. It goes up and down. I believe the lowest threshold I've seen loaded was five degrees. I don't know if anyone has necessarily gone, "This one is better than the other." I mean obviously from an effects perspective, going all the way up to twenty-five degrees would have the highest benefit. I think it's just a pragmatic, "Where can we do it?" Ten degrees is a nice round number – let's put it there.

The more streams you exclude the better, so by limiting it to ten degrees it's worse than say fifteen, twenty or twenty-five. It just becomes harder.

Stevenson: I will confirm I'm referring to your supplementary evidence, paragraphs 32-36. The word "pragmatic" has cropped up a few times. I'm interested in the pragmatic implementation. This is in respect of winter grazing and fertiliser use. You've recommended a risk base, or recommend using risk-based in context specific controls – I think you've recommended.

How could that be practically implemented? A few submitters have raised concerns about ambiguity and the feasibility of implementing rules like that. It might be something for Mr Willis as well from a planning perspective.

Greer: Sorry, what paragraph of my supplementary evidence?

Stevenson: I thought it was 32 to 36.

Greer: I only go up to eight in my supplementary.

Stevenson: Oh, well it's not that.

Greer: I think this might be someone else's evidence.

Stevenson: Okay, let's just leave it there. Thank you.

Chair: I have some questions about best information in the NPS-FM and I am not sure who is best placed to talk to this. It's perhaps a mix of both science and planning and perhaps even legal. Maybe I'll start with the legal.

Ms Anderson and Ms Manohar, are you aware if the courts have looked at 1.6 of the NPS-FM and given or provided any guidance on best information.

Anderson: We have done quite an extensive research on that and we didn't find anything that provided any guidance on clause 1.6.

Chair: Thank you. I had also looked and I couldn't find anything. Where I am going with this is (and obviously we've working what we've got, basically, if I can paraphrase) in your opening slides Mr Willis, was there a reference to "adequate information"? Do you mind going back in your opening slides?

Yes, that one. Under "overall approach" Dr Michael Greer, you've got "Is our knowledge base adequate?"

[02.15.00]

I'm just wondering if the NPS-FM actually allows for a bit more of a generous approach with that and says that in the absence of complete and scientifically robust data you need to take the best information from modelling and from other sources.

It seems to me that that is really what the Council is proposing here, relying largely on modelling and acknowledging that monitoring at the specific monitoring sites you're never going to be able to precisely say, "Sediments are coming from here, here, here."

I just wonder if you're able to talk a bit more about that overall approach. Submitters have raised concerns with being caught up and having to restrict activities, where their view is that they're not actually contributing to some of the poorer water quality.

Any sort of additional comments on information?

Greer: Just to start with, there is a point where some information is no better than no information. You get that a lot in consent hearings, where someone might put one water sample and that's ineffective and that's just not a helpful piece of information. You might as well be operating in a knowledge void. But, that isn't the case with the work that has been done for this plan change. There has been sediment modelling done for both whaitua.

There was a very expensive expert panel exercise run for Te Whanganui-a-Tara and a very high resolution modelling exercise done for Porirua. Greater Wellington has also got a huge number of monitoring sites in this whaitua. The TAS sites are not the extent of monitoring in this area. There's multiple sites

along the Hutt River. A lot of the catchments that people say, "We don't contribute for," like the Akatarawa, we have a monitoring site in there.

The information that we have is strong. Some councils have gone further and tried to do whole region-wide models, like Auckland. Canterbury has done a model with every single river, with varying success. You still end up with the same levels of uncertainty. So Greater Wellington had brought in more expert panels. And, that's an approach which other councils are adopting now. I don't think going forward that this will look like information to corporate process.

Then post the whaitua work done, I think since about May 2022 there's been a science team working – it's not fulltime but a fairly significant portion of an FTE, probably not working on it all the time, to make the science that is in the whaitua fit for purpose for defending this plan change and carrying out additional pieces of work that's need – and that's summarised in hundreds of pages of reports.

I strongly believe that we are working with the best information available. There's a lot of submissions that raise seemingly scientific points that would suggest otherwise, but they don't pass the test of being better than what the Council has spent hundreds of thousands of dollars putting together for this plan change.

We're adequate and best available, and to date I haven't seen any expert evidence that would put that higher than what's been done by GW.

Chair: You may recall in Hearing Stream 2 we were looking at high level objectives for both whaitua. There was an objective there, WH.09 which talked about in terms of achieving the direction in the NPS-FM, "where a TAS is not met then the state of the attribute is improved," so that the TAS is met; or where a TAS is met then the state is maintained in rivers; and where an attribute is in a better state then the attribute has to be maintained at that better state.

My question really goes to now that this is the first time that we're really looking at the details in these provisions and thinking about whether these rural land use provisions are going to be effective at achieving that objective. I don't know if unders and overs is the way to describe it. Is there a risk that elements of this objective won't be met? If say a particular target attribute state is met is there a risk that by not having any restrictions on an activity that in time the TAS won't be met?

It just seems we're taking a very precise methodology to something that seems not so precise.

Have you looked back at these objectives that the whole plan change is trying to achieve and thought about whether these provisions in this rural topic are going to be effective at achieving this objective?

Greer: Yes. It didn't come up in Hearing Stream 2 but I provided some thoughts on the wording of that objective in my rebuttal evidence for Hearing Stream 2, specifically in relation to (c) that the state of the river itself just seemed to add confusion about where the target attribute state applied, and was redundant

because the requirement to maintain or improve was already captured in (a) and (b), and (c) doesn't introduce anything more than what's required by (a) and (b).

In terms of whether the provisions will achieve (a), which is an improvement, I talk about that this afternoon. There are some where our assessments suggest that they won't go all the way there.

Where we are talking about (b) I guess the big question is there's a lot of rules that require a consent for an activity if the target attribute state isn't met. Where the target attribute states are met - which there's very few part FMUs where all the TAS are met, I think there might only be one at the moment - I guess the question is, did the permitted activities allow for a degradation?

They allow for new activity, which will increase losses to some extent I guess. If the permitted activity allows for intensification there's an offset somewhere else and then it will theoretically allow for degradation.

However, the requirements of the Regional Council to monitor and assess trends and in a pretty stringent way classify when something is degrading and then respond to that degradation through action planning or a plan change, you would hope that's the backstop – that if they start detecting these changes, that the permitted activities are allowing degradation that wasn't foreseen now, that there is a mechanism in the NPS-FM to drive Council to stop that degradation.

In a rural context though, in PC1. This isn't the Canterbury Plains where people are intensifying like crazy. Probably the biggest risk from an intensification of land use is urbanisation and an increase associated urban metals. There are the permitted activity rules and the policies around that do require probably better than best practice for those.

[02.25.00] Then Wellington Water is consent. The way the framework works at the moment is that there is a financial contribution and onus on the TAs to then meet the TAS as well, that then results in that residual losses being offset.

That's probably the biggest risk is urbanisation and that's probably where the most coverage is for preventing increased losses within the TAs.

Chair: With the permitted activities that again relies heavily on having the Farm Environment Plans in place and monitored. Because if activities are resulting in the degradation there's obviously less permitted activity. It requires that monitoring doesn't it. We'll probably hear about the Council's approach to that later on with Mr Peryer.

Greer: That's when the high resolution site network will also be really helpful. It's not just at these target attribute states where the Regional Council is monitoring degradation. It is broader.

If you look at the rural main schemes and rural streams, part FMU for Te Awa Kairangi, it looks like there's just one site in that part FMU. There's actually two rivers – the Pakuratahi and the Mangaroa. There is a site on the Pakuratahi as well. There is really good resolution in this area [02.26.35].

Importantly, despite having more lenient TAs over the last… well, forever, for the last fifteen years at least we haven't been seeing significant degrading trends, except for E.coli.

Chair: The monitoring, is that monthly? I think Mr Willis has talked about this in his evidence, but the provision that says "where the target attribute state is not met based on recent monitoring" are those records kept monthly?

Greer: Yes. Most sites are monitored monthly. There are some continuous sites for sediment in the Porirua catchment. The extent to which the monitoring through global consents for stormwater and wastewater will come into that later is still, I guess, to be sorted out.

In relation to forestry I talk about the use of monthly monitoring data to determine to when a TAS isn't met, which I was going to talk about tomorrow. But, in terms of just drawing a line in the sand say, you get your monitoring results in and from September and October it wouldn't be appropriate for the Council to just every month regrade the site. There needs to be more thought put into the process by which a site is classed as meeting, not meeting, improving or degrading. I cover that in I believe my rebuttal evidence and introduce a theoretical framework by which the Council can do that. It's definitely something to talk more about.

Wratt: This is probably more going to this afternoon's conversation around Farm Environment Plans, but Dr Greer you comment that the approach that's been taken here is that everybody basically has to contribute, which seems to me it puts a lot onto the developers and certifiers of those Farm Environment Plans.

How do they make that connection between what's required on a farm and what's being seen at the monitoring and the TA TAS sites?

I guess I'm just trying to get my head around still how is that going to actually work?

Greer: I think I can talk to the first part of that, which is kind of what I was saying before – is that the Council needs to have a really clear message on the state of each part FMU against the target attribute states at all times that people can refer to, that doesn't change month to month; so that people are aware of the status of their activity in each part FMU, and then there's a reasonable amount of certainty that the status of their activity won't change going forward.
In terms of how a Farm Environment Plan author or auditor would factor that in, I'm not a Farm Environment Planner. I would just be guessing. That might be a question for later on today when we come to the specifics of that.

[02.30.05]

I think providing certainty. The Council providing a really clear single message around what is needed in each catchment would be a good start from the science perspective.

Wratt: I can certainly see that but it's then how does that then get translated into what's reflected into the Farm Environment Plan, and that one farmer will have much

better practices than another. How do you account for that in the development of the Farm Environment Plans in a way that will actually deliver what's required in terms of the TAS?

Greer: I did raise that in my original statement of evidence. It was in relation to the local water quality versus the site. I raised the point that it's not actually beneficial to necessarily target mitigations or force the highest mitigations in the catchments that have the worst water quality if they already have reduced their sediment losses by as much as they possibly can while maintaining their land use. The low hanging fruit is probably the best starting point. I'm not sure how that is captured and how Farm Environment Planners work in with that. I guess it assumes that there is a small number of Farm Environment Planners doing most of these areas, so they have an idea of what is going on in different parts of the catchment, and which of their clients area likely to be contributing more to the issue than the others so that they can say, "You're not a great performer, can you do a bit more?" and not require the people who have already significantly reduced their profit margins to do the best by the environment, basically making their operations not financially viable anymore by requiring further mitigations.

It's something that probably does need to be avoided.

When you look at the amount of money that you spend as to the rewards you get, it does tail-off. There's no point in spending heaps and heaps of money once it starts to tail-off. You might as well move to the next farm and start trying to drive their losses down as well.

Wratt: I will look forward to some more conversation about Farm Environment Plans later on today. Thank you.

McGarry: Mr Willis, I'm just looking at the wording of clause CWH.P27 which is the shading one again. I just notice that the word "shading" needs to be deleted in there. It's got "promoting the stream and shading still captured."

My question is whether the reference to riparian needs to refer to margin as well, and I am not sure who that fits with the wider NRP. I don't have an understanding of the definition – whether "riparian" is a riparian margin or a riparian strip. Riparian to me without another term – it seems to be missing. I will just leave that one with you to maybe come back to us on.
I couldn't find the provision but another provision does use the word "margin". I am just wondering again how that fits in with the Territorial Authorities and their regulations or provisions in terms of the margins of waterbodies.

That's where my question is coming from, that language of margin.

Then, my question about policy WH.P26 which is now exclusively just the Makarā catchment, when I look at Table 8.4, E.coli is also an issue in that catchment. I just wonder whether that policy should be for suspended fine sediment or E.coli. If either of those parameters aren't being met then that would be trigger and that might be one for Dr Greer to comment on too.

Willis: I will just start with that last one.

That's wording that's used there is just to indicate that is why the PC1 picks on that catchment, because it's below the bottom line for sediment. If we were to apply the same approach to E.coli (and this is where I will rely on Dr Greer) my understanding is it will bring in almost every other part FMU across the two whaitua, because E.coli is a very widespread issue; whereas, this one was simply saying "We are going to require stock exclusion of where that bottom line for suspended sediment is not met," which is the Makarā catchment.

[02.35.10]

If we put E.coli in there it would create something of an anomaly because there are other catchments where E.coli is not met. Dr Greer might want to assist with that.

Greer: Yes, Mr Willis is correct. The only TAS that's met for E.coli I believe is the natural catchment one, is the Ōrongorongo Wainuiomata upstream and the Whakatikei and Akatarawa Rivers. So it wouldn't drive a huge amount of stock exclusion. Including those in, that city E.coli one would just capture everything.

It was also my understanding that the Makarā was specifically referenced not just because it's not meeting the national bottom line, but because it's the only catchment which isn't currently in Schedule F1 and not captured by the NRP definition of Category 2 waterbodies.

Willis: That is correct. Just to be clear here – in the NRP there's something called Map 45, which is mapped lowland. That has a relationship to the stock exclusion rules. Part of the stock exclusion rules only kick in and apply if you're in Map 45. Map 45 includes the Mangaroa but it doesn't include Makarā Ohariu. That is the kind of 'hold' if you like.

I wasn't involved in those provisions in the NRP so I don't know why it was excluded. Map 45 essentially maps lowland. There is obviously some lowland area in Makarā. It could have included it. It didn't. This is really kind of filling that hole, if you like.

Greer: I believe the reason it wasn't included was because almost every river in Wellington is classed as 'significant' under Schedule F of the NRP, but the Makarā I believe isn't, which means it doesn't get that same treatment potentially.

Chair: Thanks very much. We'll take the morning break and be back at 11.30am. Thank you.

[Morning Break – 02.37.15]
[Hearing resumes – 03.05.55]

Chair: Welcome back. Mr Willis I think we are up to you with Issues 6, 7 and 8 in your topic. Thank you.

Willis: Issue 4A is what I termed nutrient and E.coli management. I probably misnamed that in a sense because it is slightly broader. It relates to policies WH.P21 and

22 and P20 and 21. I kind of described, if you like, as kind of framework policies to set out the approach the plan takes to managing those contaminant losses.

In the range of submissions on these policies, the first one really was, as I said they're perhaps misnamed in that they do relate to sediment so we needed to include the word "sediment" in the chapeaux, which I would agree with on reflection.

The second one more substantively was around the use of the word "capping" and this probably relates a little bit to the comment that you two were making before the break around maintaining and improving or reducing contaminants where necessary.

The idea of the reference to the "capping" was that we were trying to indicate that losses were not to increase beyond the current level. It is often read and has been read by submitters as applying to individual properties and then there is the obvious response that it's very difficult to really cap at the individual level because we don't have tools to quantify individual losses at the individual farm or property scale.

On reflection I tend to agree with that. It's not really what was intended. It was more of a cap it at the FMU scale, but I think that does convey perhaps a slight misunderstanding of what was intended.

My proposal was to remove the word "capping" and focus on leaving the reference to minimising as the key direction of that policy.

The third point there is that the policies refer to revegetation as being the only erosion risk management tool that is able to be used. This is a big issue in terms of the erosion management provisions which we will get onto shortly.

[03.10.00]

I certainly took advice on this. There was a lot of submissions saying "You just simply can't revegetate on some of my land because it's exposed, it's windswept, it's rocky, it won't work, or the growth rates would be so slow and its viable rates would be so poor."
I took advice on that, most notably from Mr Peryer sitting next to me, who I think basically agreed that submitters were right, or would be right in many cases.

I think when we get to those provisions I will talk about exactly what we are proposing, but as a consequence of that change the policy needs to be amended to delete that reference as being the only solution that's possible.

The other part of this policy – again it's a framework policy and it talks at a high level about what we are doing with stock exclusion. We've done a pivot if you like here from talk about focusing on small streams to focusing on streams greater than one metre wide; so we've had to propose a change to that reference in those policies.

Sorry, that slide is misnamed it should be 4A. This is the second part. The rest of the issues here relate again to the idea of capping not being appropriate.

The second point on that slide is that again there's a reference to the difficult acronym of RNRAT – which was the Recognised Nitrogen Risk Assessment Tool that we had proposed would form part of the plan and be used both for the small blocks and the larger twenty-plus hectare blocks – for reasons I will talk about in a minute.

I am proposing we move away from that. Having said that, it's probably important to note at this point that the reference of not actually increasing nitrogen is still important, and it is actually still in the Plan Change, and particularly it's in existing Schedule Z, which as I indicated earlier is an NRP but continues to apply.

The principle that you shouldn't increase in the broad scale ability to do that through risk assessment farm plans remains, but that specific tool would be removed.

Then the last of the points there that a great many submitters talked about, the end loss risk on small blocks being able to be addressed, my interpretation is that could be addressed without registration – a bit of a reaction to the idea that they should register. On reflection and for a number of reasons that I will talk about in a minute I tend to agree; so again the policy would need to be amended to remove that.

But, to include a new reference to a method of investigating what is going on in those blocks without them registering; so it would be, I guess, a study undertaken by the Council to have a better idea of what's happening on some of those parts of the whaitua where we would have a lot of small blocks being 'hobby farmed' for want of a better term.

So there's a little grab-bag of changes that I was proposing and recommending for those policies I mentioned and they flow through to the more detailed provisions that follow.
The next issue is the recognised Risk Assessment Tool.

When Plan Change 1 was devised and drafted, there had been an expectation to replace what was essentially the loss of the overseer model from regulatory use. The MFE would produce a simpler tool that would be provide a quantified assessment of risk but not in a kilograms per hectare per year basis – more of an abstract index of risk.

[03.15.15]

The idea had been that we might use that tool in PC1 to require farms to use that tool through PC1 as a means of ensuring that we had a quantified assessment of risk and therefore could keep an eye on whether risk was increasing or not – which seemed like a sensible idea at the time.

What really happened was that the tools has been delayed multiple times. It is now apparently due next month – but I've heard it before.

I think having not seen that, there has been some information on the tool put out by MFE over the last few years, but I haven't actually seen it. Certainly I haven't

seen it and I don't know that it was widely available for anyone to see. So, I know a limited amount about it. There was a publication put out which is was a guide to it – interestingly before it actually is out; a guide to the tool which says amongst other things that it shouldn't be used essentially in a way that it was proposing it was used, which was to assess a change in a strict numeric sense.

Because of that, because of the fact that I haven't seen it and therefore assess its appropriateness, and because the guidance indicates that it shouldn't be used as we were proposing to use it, I proposed it not be continued with in PC1. That requires a number of changes.

I have indicated there in the right hand box – delete the reference to it in the Schedule, the definition, the policies which I just talked about a moment ago, and to amend the definition of "nitrogen discharge risk" and to delete the reference to a "quantified assessment." So we would still have a definition but it would be more a qualitative assessment undertaken at the time the FEP is put together and certified.

That change has some other consequences because it wasn't just the large blocks that PC1 as notified proposes use the recognised Nitrogen Risk Assessment Tool; it was actually the small blocks as well. In fact, it was really because of the potential use of that tool that was one of the reasons it was decided to have the small block registration provision.

Without the Risk Index tool being available it did bring into question in my mind whether there was any value in actually having the registration process, and I had concluded that there wasn't. It was very largely because of the loss of the assessment tool but it was also became clear reading submissions that probably the Council would need to be reasonably cautious in the use of the data that you could get from that process. The registration process was itself a reporting process and I suppose to have confidence in the data you retrieved from that process there would need to be a verification aspect to that, because people don't always the ability or the means to report the data accurately – and that could be quite a significant paper war essentially to try and get that sort of data verified, at what your stock was, what your fertiliser use was, what your nitrogen risk is, etc.

Then of course, the other stream of submissions or points raised was again a lack of evidence that the smaller blocks were a major contributor to nitrogen. We postulated they were, because of the nature of that land, but on reflection, and having thought about those submissions, I guess I reached the conclusion that there was a fair point that we had very limited evidence that it was an issue rather than just a potential issue.

On basing those reasons I decided to recommend that the small block registration be deleted, which again is implemented by making the changes indicated in the right hand box there, which is to delete the requirement in Rules 26 and 25, the policies I've just referred to earlier; deleting the schedule – there's a schedule at 35 which set out the registration process and that would go; and there's also a Method which was committing the Council to assist in that registration process, which would also go.

[03.20.25]

Chair: Thank you Mr Willis. Shall we just see if anyone has any questions so far on those issues?

Actually Forest & Bird and EDS have raised the proposed deletion of the nitrogen assessment tool in their legal submissions, which in accordance with the timetable after you had told your rebuttal, to the extent that there's anything there that you wish to respond to, that could come through in your reply, unless you want to make any comments on any of the points they raise.

Willis: From recollection, the submissions were suggesting that the plan change could still provide for such a tool but it would be introduced at a later date through a plan change I think was the idea. Certainly that was what they were suggesting was required… we had left often the prospect that a tool would be approved down the track. We wouldn't approve a tool as part of the plan change decision, but the Council would approve the tool later down the track. That got some reaction including I think from Forest & Bird, if I am not mistaken, in that they thought that was inappropriate and had to be approved through this process.

I didn't form a clear view on that because I didn't need to at the time, but I think that is an issue. I believe that their legal submissions do suggest that would be the case – that you would simply provide for and it be approved subsequently. I am not sure and I can't recall sorry if that was through an officer approval or Chief Executive approval of the tool, or whether it was a plan change for a subsequent Plan Change that they were suggesting. It's just escaped me sorry.

Chair: I think Forest & Bird say that they still support the use of a tool and they consider that the s42A has gone too far in recommending it be removed. As an alternative they say, "Could the definition be amended by including objective criteria that the tool must meet?"

As I understand it, where we are at the moment, your recommendation is that it's relying on Schedule Z and Farm Environment Plans to see what's going on with nitrogen discharges and what measures could be applied to a farm to manage them. I note that the Policy P22 does talk about minimise, which is defined in the operative plan as I think "reduce to the smallest extent possible".

My question is, is this a change from the status quo, because if the status quo is not appropriately managing nitrogen discharges are these provisions going to result in improvement in the status quo?

Willis: The status quo would be these farms, these twenty hectare plus properties that currently don't require an FEP, so Schedule Z doesn't apply to them. It does apply in the priority catchments of which none of them are in these whaitua. I think Mr Peryer will talk a bit about that, in terms of how it currently works in the priority catchments. But, the idea is, yes, as part of that when they do their Environment Plan getting part of the chapeaux and part of Schedule Z, as I recall, the objectives talk about not increasing your nitrogen loss. That assessment is done on what the risk is. The requirement is to keep to where you were at 2020 and we know broadly what the risk factors are on a farm, and so it's managed in

that way. That approach that's currently in priority catchments outside of these whaitua would be brought into this whaitua – so there is that change.

[03.25.10]

Chair: So more widespread application?

Willis: It would be brought in across all the 20 hectare properties, across the two whaitua, but it would remain I guess you would say qualitative rather than the quantitative approach at the end, that the risk tool would have introduced.

Kake: I am just thinking out loud, which isn't good sometimes, but the Policy P21 I am sort of reading that as an effects management policy and just wondering if you had given any other thought to the term "capping" that's been struck out. I suppose there's particular reference under the NPS to the effects management hierarchy and specifically referenced wetlands and rivers. I am just wondering if you have put any thought to another term?

Willis: Thank you for that question. I have to the extent that I read I think the Forest & Bird legal submissions or the EDS submissions where they talked about the need to maintain and not just minimise.

When I took out the word capping, I did reflect on that and thought "minimise" is in one context more onerous than "maintain". If you've got ability to do more then you have to do more than just maintain. On the other hand, I think to be fair to Forest & Bird their concern would be but if you are doing a new activity, if you are deciding to uplift your tensity of your operation, all you have to do is minimise the effects of that increase of that operation. That is I think the issue that they were trying to raise. I don't want to put words in their mouth, but that's my interpretation. I did reflect on that, because I think that's where they were thinking capping was a useful additional concept.

I would be concerned about that in normal circumstances, but I think in this case I don't think there's a risk, mainly because the sorts of farming operations (and again Mr Peryer will talk about this) but the sort of farming we have in these whaitua are not the sorts of operations where we would expect a whole lot of intensification to occur. We have dealt with the main risk of land use change – so going from sheep and beef farming to dairy, which is unlikely; we've got a consent requirement for that. We've got the risk of someone deciding to irrigate and put on more animals – we've got a consent requirement for that.

When you get a consent it is capped. If you follow the policy train that applies in those consenting contexts you do have to keep to the contaminant loss that applied to your existing activity, the activity you are changing from.

There is a cap that applies in that way to anything that's consented. Does that make sense? I'd have to take you to the exact policies perhaps. I can do that if I can remind myself. I was going to come up to it actually in one of my later slides.

There's a reference back to Policy 75 I think it is of the NRP which also deals with us. The policy framework basically says you can land use but you cannot increase your contaminant discharge; so as assessed is all part of the consent.

I thought about the loss of the word "capping" and when I think about how the policy framework will work it does actually have the same effect. It is still there in the framework. Does that make sense?

Kake: Yeah, I think so. We might get to this later but – so Policy 75 under the Regional Plan will still apply to these two Whaitua?

Willis: Yes it does.

Kake: I suppose there's just a bit of inconsistency with some wording which for plan users we are trying to get some clarity on as well.

Just reflecting on some of the other provisions in the Regional Plan, and I won't quote, but there are particular references to that effects management hierarchy in terms of avoid, mitigate, remedy, so on and so forth and opportunities to offset.

[03.30.15]

It might be something that comes up later on in further discussions, but I think just trying to understand how that affects management policy as I'm reading it, or understanding it correctly. It might work in practice.

Chair: I just want to be clear, and this might be something that Mr Peryer might be better placed to comment on, but just looking at Schedule Z, if you have that handy, the Farm Environment Plans must currently demonstrate that they've taken measures to minimise nitrogen leaching loss, among other things, and avoid an increase in risk of loss of nitrogen relative to the risk of loss that occurred as an annual average in the five years prior to 2 September 2020.

Can you just remind me – is it that the Farm Environment Plans at the moment because of resourcing and various other issues farmers are being encouraged to use them but they're not really being monitored. I don't want to put words in your mouth. I guess I'm just trying to understand that if we actually have that data to September 2020, if we are now saying "We are relying on this as really of the main ways of managing nutrient nitrogen loss,"… I'm just checking if Schedule Z is going to be suitable for that purpose.

How is Schedule Z used at the moment?

Willis: I might just see whether Mr Peryer has a comment. He's at the implementation end of this.

Peryer: I will be covering this later this afternoon in terms of the details around Schedule Z and how it is applied, if we're happy to wait until later on.

Chair: Mr Willis, is it your view that the provisions you're supporting would meet the NPS-FM requirements around setting limits, setting exceedance criteria for achieving the TAS for nutrient attributes? I'm looking at 3.13 of the NPS-FM.

Willis: I'm just thinking that through. Do we have a rule that requires farming activities to not increase in nitrogen? Yes we do. It's a little bit circuitous I suppose you would say, because it relies on the farm plan and the obligations that come with

that. So it's yes you must have a Farm Plan and a Farm Plan says you cannot increase your nitrogen.

I have to think it's possibly a legal question as to whether that's compliant, but it seems to me it has the same effect, at least in theory. I totally agree and I'm sure Mr Peryer will affirm this, that there will be implementation challenges. It's not an easy thing to regulate. But, certainly on the face of the plan I believe it's compliant because that is what the words say, at least by association with that Schedule.

Wratt: Can I just explore that a little bit more. The TAS are set in Tables 8.4 and 9.2. I thought that meets setting the TAS. But, what we don't have is we don't actually have rules to implement this policy, other than the rule that requires Farm Environment Plans.

[03.35.00]

Am I interpreting that correctly?

Willis: Yes. I would probably put a slightly different gloss on that. As has been pointed out in 3.12 is it, from the NPS, it says you must have a limit to achieve a TAS and a limit must be a rule.

We have a rule that says you have to have a Farm Environment Plan and the Farm Environment Plan says you can't increase your nitrogen, or anything else actually. That is the limit. The limit is essentially what you are.

To the extent that a limit applies to every property, which it should do I guess because if it's a rule it has to, then the limit is where you are now.

Wratt: Thank you.

Chair: Thanks. Yes, we'll come back to that point about the five years prior to September 2020. We'll pick that up later. Thanks.

Willis: The next slide is Issue 6 which is about the large block rules, which as I said are twenty hectare or more. I should just mention too that when I talk about farms that are over twenty hectares I'm talking about farms which have pasture or arable land that has more than twenty hectares, so the property could in fact be a hundred hectares but only have ninety hectares of pasture, in which case it's not caught by this rule. I think that's just another point that submitters picked up on and is important.

As we've said several times an FEP is required for these farms. The issues raised by submitters really were around the threshold and is the threshold appropriate? A twenty hectare threshold or a five hectare threshold, the lack of evidence about the issue and the matters related to FEPs.

That was a kind of broad brush approach and the reporting of input data to Greater Wellington, that was Forest & Bird again who were suggesting that in addition to having an FEP you should be reporting that data to the Council, and that would be data like fertiliser use – I think that's a key one.

Then also the timeframes by which these Farm Environment Plans for these large blocks were required. I think that was a certainly a very legitimate issue raised, that timeframes weren't in the passage of time realistic. So we've had to have another relook at those.

My recommendation are around obviously retaining those rules, but I am suggesting a range of changes to reflect the advised approach to Farm Environment Plans, which I discuss a bit later.

There's not really a lot more to be said about those rules. I think they're essentially reasonably robust and require tinkering but not fundamental change in my opinion.

The next issue or sub-issue if the consents. We had 31-odd submission points and 45 further submission points on this. A lot of them from people like Federated Farmers were questioning whether the consenting framework was proportionate to the risk. The fact we cascaded through from permitted to discretionary to non-compliant quite quickly and you do **trigger** [03.39.43] yourself through to non-compliant quite quickly.
In my view, we do need a set of rules that cascade. If you don't have a farm plan, or if your farm plan doesn't comply you need to go to a consent.

[03.40.00]

In this case, if the consent category is through to discretionary, if you choose you really don't want to have a farm plan you can go for a discretionary consent and get the same conditions you'd have on your farm plan put on your consent. I don't think many people would choose to do that. It wouldn't be my advice but that's an option. I've just forgotten what triggers you to non-complying, but that's the ultimate destination for you.

Again I think the rules are needed to make the provisions work. There are a couple of minor changes to fix up in those rules but I haven't made substantive recommendations in respect of them. As I say, there's a couple of consequential changes required just to make them work with the deletion of the small block rules.

This is where we get into the provisions situation. If you're in a catchment which is exceeding then you would drop to a non-compliant without a Farm Environment Plan, if you're exceeding a TAS. That's an obvious one.

That's essentially the planning cascade framework. The other part of this is the land use change rules again. Some concern amongst submitters that this is not proportionate to the risk. To an extent I agree that the risk of land use change, particularly into an intensive pastural system like going into dairy or going into horticulture is extremely low, but nevertheless it's one of those belts and braces and parts of the plan that we need to cover off I think. As I said, it really kind of fills a gap that was created by the revoking of the national standards which controlled this.

I guess the most controversial part of this, or the aspect of the rule which attracted most attention was the change from forestry to pasture, being a consentable activity, and some submitters wanting more flexibility around that.

This is where I have sought the advice of Mr Blyth in terms of the relative sediment load expected from those two activities. As he will talk about later, he has confirmed that over the long full rotation period that a pastural farming system is still more sediment risky than forestry; and so a change to that activity ought to be subject to scrutiny through the consent.

There was also some horticulture in this issue, because they wanted to be able to convert or do rotational cropping into horticulture, particularly commercial vegetable growing. In my view looking at that issue there was so little of it in the catchment that it didn't seem to me to warrant the quite complex provisions you would need to try and manage that. That will be different when we get to other whaitua of course.

There was also the issue that the actual wording of the rule, talking about rural land use activities, was not helpful because there were other activities in rule areas that weren't farming. There was some suggestion that the policies (not rules) could be applied and were never intended. I've accepted that point too and we are now suggesting we refer to primary production activities rather than rural activities.

The only other matter of substance is the deliberate land use change. They've lifted it from four hectares. When I said there was a consent required for land use change it was above the threshold of four hectares. I've proposed an increase to five hectares in response to submitters – particularly horticultural submitters, which did allow a little bit of flexibility for a handful of vegetable growing operations there are in the whaitua. Given their scale it seemed to be adequate and I have nothing further on that matter.

[03.45.00]

That's Issue 6 done.

Chair: If we can just quickly pause there, just to see if anyone has any questions. I have one actually Mr Willis. Policy 25 – managing primary production land use change is your recommended wording in the s42A. It was Winstone Aggregates who made the point that primary production is not defined here but in the National Planning Standards it includes quarrying. They understand this policy is not meant to apply to quarrying activities, and so one way of addressing that is to refer to land-based primary production. Did you have any views on that? I don't think you've addressed that in your rebuttal.

Willis: Sorry, my mistake. Yeah, I might have to repeat that for the record. There is no intention that quarrying be captured by these provisions. It's clearly intended to apply only to farming. If I have done that then I will need to reflect on that [03.46.58] I'm happy to make the recommended change to do that.

Chair: Thank you. We're happy to hear from you further on that in your reply.

Wratt: Just some clarification around rules WH.R30 and P.R27, which I think are the equivalent rules, in clause (b) in the last line of WH.R30, Te Whanganui-a-Tara, it says, "Any monitoring site within the relevant part [03.47.38] freshwater management unit set out in Table 8.4 the land use is not to pastural land use."

Then the Porirua equivalent says, "use of the land under Rule P.R26 is not pastural land use."

I think there's a 'to' in the Rule 30 that probably shouldn't be there.

Willis: Commissioner, it sounds like something I might have overlooked. I'm happy to look at that and probably take the 'to' out or put the 'to' in. I'm not sure which yet, but one of the two to make them consistent.

Wratt: I may be being dumb here, but why is that the land use is not pastural land use?

Willis: It's only because of the E.coli issue we talked about. Because E.coli is everywhere and if we go for a pastural land use we'll be increasing the risk part to E.coli. In that case you would default to non-complying, to the need to go to pastural land use.

Wratt: Thank you.

Kake: Just one question. I'm struggling to see reference to mana whenua values at all I suppose in a number of these policies in the rules – matters of discretion and what not.

Under Policy P.70 and it's under your s32AA analysis at page-46, that's not going to apply in these two whaitua. But, there is specific reference I suppose to that particular policy where it references minimising effects of rural land use activities and at sub-clause (d) it references mana whenua amongst Council working with Territorial Authorities, water users, farmers, householders, etc.

I suppose this is a practical implementation perspective but how do mana whenua values come into the assessment of these particular activities noting that (and we'll get to it) but that the CCCV context specifically references under Regulation 4 iwi and mana whenua values to be considered.

[03.50.15]

How have you considered that through your evidence?

Willis: Thank you for that. Just a couple of preliminary pointers. This isn't really an answer, but it's a little bit of context – which is I would not expect a lot of consents for a start under this regime. But, when we do get a consent, and obviously my consent defaults directly to a discretionary activity and there's no restricted discretionary, and therefore all the policies of the plan will potentially apply; so there are other policies of the plan dealing with those values and matters that I would expect to be incorporated in that way. It would be different obviously if I had a range of controlled activities or limited or restricted discretion. Then I would pretty much take that point. But, I think because we go discretionary then straight to non-complying, we can simply rely on and borrow, if you like, the policies from elsewhere.

Chair: Mr Willis, I keep referring to the Te Whanganui-a-Tara provisions, but obviously I'm also referring to the other whaitua, Porirua as well. But, Rule 31 I just want to understand this cumulative total wording. So where there's a change of land use, where the change exceeds a cumulative total and you're now

proposing five hectares, so that's in the entire property there might be different places in the property that there might be some arable land use, there might be some low intensity horticultural land use somewhere else in the property, but it's the combined property area of all of those activities and if that exceeds five hectares then you trigger consent under this role?

Willis: Yes it would. The other thing that it would do, would be I can't do five hectares this year and five next year, and that's your five next year. At least that's the intent. I'm hopeful that's what it does.

Chair: In practice how will the Council know what was occurring on the property on 30 October 2023? Is that just through satellite imaging and aerial photographs and that sort of thing?

Willis: Ultimately yes, but we have a Farm Environment Plan too which provides a benchmark. When you do your Farm Environment Plan you will have that data recorded, whether it's at 2023… well obviously it won't be because we're now at 2025, but it will provide a benchmark. That date could change of course if you wanted to align it with a future date. You wouldn't want to allow people time to increase.

It's often the case when we do these sort of rules that we put a line in the sand, but it's not always going to be perfect how we can apply that. You're right, there's the Farm Environment Plan record that we'll have and there will also be aerial photographs, imagery and that sort of thing. Of course it's a small catchment and Mr Peryer knows I think every property owner in the catchment.

In this particular case it's probably a little more doable than in other areas.

Chair: Thank you. Just one final question on these provisions and Dr Greer might also have a comment on this.

It goes back to that point we talked about earlier, about the monitoring data. So just taking Rule 31 as an example, one of the conditions is if the most recent Council monitoring data demonstrates that the concentration of E.coli exceeds the TAS at the monitoring site, do you mind, or whoever would like to answer this, just how that would…

[03.55.15]

So I'm the farmer and I want to change my land use. Is this at the date that lodged the application that you're looking at that monitoring data for the relevant TAS site? Just talk me through how that works in practice.

Willis: That probably is more a question for Dr Greer, but my understanding would be you don't take a single record. The record would be as applies under the NPS-FM which is offered a five year median or something. So if it's a rolling five year median, it's looking at the latest addition to that calculation. But, I'm going to stop there because I'll get myself in trouble. I'll ask Dr Greer to give [03.56.05].

Greer: This is unresolved in terms of how the Council will do this going forward. I'm not sure if it's still in my reply evidence but I initially drafted it to say in relation

to the forestry provisions that this should apply to every rule that requires a TAS to be met, to determine your activity status.

This is where the Council needs to report and measure. Amendments to s.35 of the RMA undertaken a couple of years ago required plan effectiveness and regional policy reporting every five years. To me, that seems like the sensible time to assign whether a TAS is being met and to keep that in play until the next s.35(2)(a) reporting is done, and I will talk more about that in forestry tomorrow.

It's not been resolved but it does need to be.

Chair: That's helpful. It sounds like the Council are thinking about taking a consistent approach in how that's done.

I can't remember the provision we were looking at earlier this morning but that five year or the annual average. Mr Willis, there was a provision that talked about the annual average in five years.

Willis: I'm struggling to remember that sorry chair.

Chair: Anyway, just noting…

Willis: Sorry, I think you might have been referring to the nitrogen risk assessment tool approach. So when you're reporting that you're reporting the five year average.

Chair: That's gone in your recommendations?

Willis: It's gone yeah.

Chair: Anyway, there could be some potential wording from that, because reading the condition at the moment in Rule 31, and I appreciate that this is still up in the air, but that seems to say it's the state at the monitoring site at that moment. But, if it is actually the five year annual average that you're thinking about, then there might be some wording from that nitrogen risk assessment provision.

Willis: Yes. Thank you, I agree. I've looked at that many times wondering whether we need to be more explicit about that. It was not intended that it would be one-off and I can go at this particular point and prove that I'm okay, because we know that's not how we do water quality monitoring, so that would not be an appropriate approach. Obviously Dr Greer has got thoughts about how it could be done. A five year average might be part of the answer, but I don't want to pre-judge what Dr Greer is going to come up with.

Greer: Just on page-17 of my rebuttal evidence, I've got some suggested wording in relation to Mr Watson's explanatory note to WH.R20, which I think is probably going to be starting point for discussion to see if that's an appropriate wording to go throughout the plan in relation to this.

I think references to specific statistics probably needs to change and it needs to be whether the Council has assessed the TAS as being met, rather than we don't

need to specify there may be another, or for the period it's with, or that the Council it's met that should matter.

Willis: I think the other thing just to note with this, and why I didn't go into a huge amount of detail when I drafted this was because the way this particular rule works is that you're not triggered to get a consent by the state of the catchment; you're triggered to get a consent because you either haven't got a Farm…

[End of recording – 04.00.00]
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Willis: …Environment Plan which you're looking at, or you're changing your land use. And, so because you need a consent anyway, whether the catchment is or isn't compliant with the TAS that triggers whether you need a discretionary or a non-complying consent. So as often happens, you apply for a consent and then it's somewhat determined through the Council process as to which track you would go down. So there's a little bit of that flexibility built into the way this rule particularly works, that may not apply to Mr Watson's rule, but setting this rule it's less problematic I think.

Chair: Sorry Mr Willis, I think you lost me a bit there because I thought that this Rule 31, whether you can apply for discretionary consent or not under it, depends on whether the monitoring data demonstrates that the TAS hasn't been exceeded at the monitoring site. Have I got that wrong?

Willis: Confirm which rule we are on please?

Chair: This is Te Whanganui-a-Tara and Rule 31, change of rural land use discretionary. Just looking at those conditions under (d) and (e).

Willis: You might be correct on this one. Certainly it's not for the other discretionary… I was thinking of rule R30 when I made that comment I'm sorry. So, R30 you're required to get a consent because you don't have a Farm Environment Plan - and which type of consent is determined by whether you are in a compliant or non-compliant catchment.

Sorry, you are right on reflection. You are required to get a consent if you change land use, and you're discretionary if you are in a non-compliant catchment. If you are not in a compliant catchment then you are a non-compliant activity under R32. So you are still within the consenting track either way.

Chair: I think that's the one thing remaining for me and I appreciate that you'll be coming back to us on some recommended wording here – there's that submitters do have an opportunity to consider that and also give their views on it.

It sounds as if you're clear that it's not the particular record at the particular time you apply for consent – it sounds like it's not that. But, it may also not be a rolling five year average. Still not sure exactly how it would be.

Willis: I think that's a fair summation. It's certainly not meant to be a one-off, but whether we have a statistic or whether we have it as Dr Greer was suggesting and a wording that's in the Council's opinion or in Council's determination it

hasn't then met provision. There might be some guidance behind that as to how that's done would be the other way to approach it.

Wratt: Can I just explore that a little, just in terms of the provisions? Are you suggesting that there would be some drafting done now that would bring into the provisions what that might look like.

Willis: In my mind I was anticipating this would be an issue of some interest, and I was anticipating coming back with some drafting in association with Mr Watson and Dr Greer. All of us have thought about this. It affects all of us.

Greer: It may need to be through Hearing Stream 4 for a shared approach. I am not sure to the extent to which any of the urban provisions also bring in this sort of stuff, but ideally would be consistent through all activities.

Chair: Thank you Mr Willis. Sorry, we might have interrupted you. We're up to Issue 7?

Willis: I think we are up to Issue 7 Commissioner, yes, that's right.

[00.05.00]

Issue 7 is stock exclusion. The notified plan change had an unusually structured rule around stock exclusion. For a start it focused on small streams, which was in itself problematic. It said basically that stock access to streams is permitted - it's the way that the rules are set up in the NRP generally - but you needed to have a small stream riparian programme which was about assessing the risk of stock access to those streams and then essentially assessing what options you had to do something about that.

So it was never a tight stock exclusion rule, although obviously naturally many submitters interpreted it that way. It was really the idea that through the farm planning process you got people to look very carefully at what risks there were to their small streams, and to think hard about what they could do to minimise those risks.

That was the idea initially.

Something changed, obviously mid-flow in this process, which was the change to the stock exclusion regulations, which removed the requirement for sheep and beef farms that weren't intensive and low-sloped lands to stock exclude from the large rivers over one metre.

Then we were in a situation where it would have been a little bit adverse I think that the NRP was proposing you look very hard at stock exclusion for small streams, but in fact there was no control over the larger streams. That got us thinking that really perhaps the easiest thing to do to improve the stock exclusion is to revert to a focus on the larger streams. We had a lot of submissions of course opposing this as well.

So, focus on the smaller streams and fill the gap, if you like, again created by the change to the national regulation.

The proposal does go further than national regulations because it requires all streams whether you're low-slope or not to be stock excluded; but it does provide I guess flexibility or an 'out' you might say at the discretion of a farm certifier to not require exclusion of those streams that are not on low-slope land – the idea being it can be difficult, a lot more expensive and sometimes has adverse effects on its own to stock exclude those steeper bits of land.

So that's where we've ended up. That's the recommendation that we quite radically change that rule. We will get hopefully stock certainly stock exclusion of all the low-sloped land in the Ohariu and Makarā catchment, and potentially some land beyond that as well.

That's essentially where we have ended up.

I will go onto the next slide – there's a range of recommendation around the specifics to make all that work and a number of changes which you will have seen – changes of the rules to Schedule 36. And, we've had to introduce a new map which now complements existing Map 45 of the NRP which is specifically focused on Makarā and Ohariu low-sloped land.

Chair: Mr Willis I am conscious of time, but we don't want to miss this opportunity either. I was looking at the cascade for these roles. Te Whanganui-a-Tara Policy 21(d) has got some policy support here for stock exclusion. I was referring to Police P26 and Policy 108. Policy P26 I don't think refers to the rule.

It might be fine but I guess I was just wondering if that cascade and the linkages to the relevant rules could be clearer, but happy to leave that to you to think about and maybe come back and reply.

[00.10.00]

Willis: Can I just clarify that? The rules that are currently referred to in there are the rules obviously of the NRP, the existing rules, and this is saying in addition to that you must reduce access – as indicated through the Farm Plan process and Schedule 36. Are you suggesting that that policy ought to refer to Schedule 36 part-F?

Chair: No, I think what it was, was should Policy P26 or P21 refer to Rule 28. I think it was simply that. It's not a major issue.

Can you just remind me again how you've got to 30 December 2028? I know you have covered this in your evidence – for the stock exclusion rule.

Willis: It's related to the timing of the Farm Environment Plan. It's when the Farm Environment Plans are required for this catchment from memory – they should be anyway. Because it's done through the Farm Environment Plan we couldn't require it before that. It would make sense to align them.

Chair: Yes, because you're only permitted here if you've got the Farm Environment Plan isn't it. And, it's a certified plan so it's gone through the process of being certified. Thank you.

Does anyone have any questions on stock exclusion?

Kake: Kia ora, just some checking my brain is working. There's the overlap with WH.P21 with respect to those policies around discharges of those contaminants. The Rule WH.R28 and 29 is specifically to the Makarā catchment, but the policies P21 and P22 (I'm not sure if the equivalents are in the Porirua one) they apply everywhere?

The livestock exclusion Rule 28 and 29 is purely for the Makarā catchment?

Willis: That's exactly it, yes. The idea there was again P21 was meant to be the overall what we do across the entire whaitua. It was a reminder that we're relying back on some of those other rules for some of that control, but there are specific rules and provisions for Makarā.

Kake: That capture the other areas?

Willis: Yes.

Chair: Sorry Mr Willis, I did have one further question on the timing – so that date of 30 December 2028 for stock exclusion in the Makarā catchment. In the table above, in Table 8.6 which is a phase-in of the Farm Environment Plans I thought the Makarā catchment was…

Willis: It's 30 December 2027.

Chair: It's the first row there, South West Coast rural streams?

Willis: That's right.

Chair: Thank you. So then that leaves a year to get your plan certified.

Willis: It does. You have got six months after preparing your plan to have it certified. Essentially you have until mid-'28 to have it certified, but you would have to have your stock exclusion done by the end of that year. There's a six month gap effectively.

[00.15.00]

These dates all have six months added to them through the one of the rules. The idea there was because there's a foreseeable situation where someone can go and prepare a Farm Environment Plan just in the nick of time, thinking they're going to get it certified and be tickety-boo and then find it doesn't get certified – and so there's an opportunity to reiterate and rework to get it certified over six months of grace period I suppose, if you like, to do that. That was the thinking that was behind that extra six months.

Chair: That makes sense, but I'm not sure if the wording does that because my reading of that Rule 28 is that from December 2028 you're permitted provided you comply with (a) to (c), and so isn't it that by that date you need to have the Farm Environment Plan certified? Where does the additional time come in for certification?

Wratt: Is that rural WH.R27 and P.R26, there's clause (c) within six months of Farm Environment Plan being supplied to Regional Council – is that what you're referring to?

Chair: I don't think that's stock exclusion though, that's something else.

Willis: Are you talking about WH.R27(c)?

Chair: No, I was talking about Rule 28, the stock exclusion. I was just saying that if the Farm Environment Plan is due for the Makarā catchment by 30 December 2027 then can Rule 28 be a permitted activity if as part of that you need to have a certified Farm Plan from 30 December 2028? I've said that gives a year so it should be workable from that point.

Willis: Is this something I can think about slightly more in a quiet moment and come back to you on?

Chair: Yes of course, absolutely.

Willis: I only say that because I spent some time and I thought I had it right. You may well prove me wrong and I don't want to give you poor advice on it.

Chair: Absolutely. Thank you.

McGarry: Just a clarification. Now I'm in the Schedule I've found where the word "margin" has been introduced and that is in Table D1 – there's a definition in there where "margin" has been used.

Then going back to the NRP Objective 21 talks about riparian margins.

That's where I did read it. I thought I picked it up somewhere. I am just looking for consistency across and that if "riparian margins" is the better term then there's a few tidy-ups that are probably needed.

Willis: Thank you. That might have been shorthand by myself and others. We consistently refer to planting as riparian margins. Some of that wouldn't be a problem.

McGarry: The second one, I'm just wondering again – I'm on Schedule 36, at F1 and that one that says "cattle" but it doesn't have in brackets "including dairy cows". The rule say for example WH.28 specifically says "including dairy cows." My question is whether it should be there in that schedule as well.

Willis: I think the answer is yes, it should be, it's just an omission. That will be fixed.

Ruddock: Commissioners, just an update on timing. We have reached the lunch break but have not yet got to Mr Nation. So to both you guys – what you would like to do there.

[00.20.10]

Chair: Sorry about that, we did lose track of time there a bit. Mr Nation would it be a problem if we had your presentation after the lunch-break? Are you available then? Yes, okay, great. Sorry about that. Sorry for any inconvenience.

Mr Willis, I know we've been interrupting you and you've still got Issue 8 to go.

Willis: Issue 8 is where Mr Nation comes in. I was only going to do a two minute introduction to him and then he was going to take over.

Chair: Shall we pick up with that after the lunch break then?

Willis: Thanks very much. Thank you Mr Ruddock. We'll be back at 1.40pm. Thank you.

[Lunch Break – 21.05]
[Hearing resumes – 01.15.45]

Chair: Good afternoon everyone. Welcome back to the afternoon session. We are still on the rural land use topic and the reporting officer's presentation. Mr Willis and Mr Nation, we are I think in your hands.

Willis: Thank you Madam Chair.

Issue 8 – managing erosion risk. You're pretty familiar but I will give you the brief overview. Essentially we have inserted a new proposed, or PC1 inserts a new part into the Farm Plan provisions which is termed an "Erosion Risk Treatment Plan" and that is aimed to achieve revegetation of the mapped highest erosion risk land and a similarly effective treatment on mapped high erosion risk land.

Those terms are defined and mapped. The only thing I would say about that at the moment, because Mr Nation is going to talk you through exactly how that was done, is that from a policy perspective that is different to erosion prone land which is a term used in the operative NRP, which is the greater than 20 degree slope, and that was considered to be too crude. Then it's also different from highly erodible land which is the term used in the RPS but which remains subject to appeal and therefore hasn't been mapped pending the outcome of that appeal.

So, we were left with having to come up with a new mapped area, which we initially called "highest" and "high" erosion risk land.

We unsurprisingly got a large amount of submissions on this – concerns about the cost, concerns about the mapping techniques. I won't go too much more about that. I will talk about that again perhaps after Mr Nation has given his presentation. But, he will tell you at least what was done and how those maps were prepared. I will hand over to him now.

Nation: Thank you Commissioners. I'm just going to run through briefly the erosion risk mapping. As Mr Willis pointed out there's obviously been quite a few submissions on the topic so I thought a few slides just to run through a bit of a

brief outline to go through that, and then how it may have changed towards the end there.

The erosion risk mapping was originally carried out to support the Council's land management team and two of the key catchments – Takapū and Pouewe part-FMUs. Then subsequent to that the mapping was extended or expanded to cover both whaituas to help with some thinking around PC1 work.

The erosion risk mapping collaborations carried out did not consider the draft RPS definition, which Mr Willis alluded to earlier, and we were sort of working independently of that.

The mapping as it stands represents hill slope erosion risk. We have defined that as the intersection of surface erosion and landslide erosion risk. The surface part of that is based on the RUSLE which is the Revised Universal Soil Loss Equation, and that uses rainfall, slope, flow accumulation, land cover and soil to map potential sediment loss.

This was being split into categories based on area quantiles just to give relative risk. This was done per whaitua to pull out what would be the highest and what we were determining at the top ten percent of the land, and high risk which is the most erodible thirty percent of the land.

[01.20.00]

The landslide components that went into this, we looked at land above 26 degrees without woody vegetation and then those two layers were sort of combined together and intersected to ensure that mapped surficial risk was also potentially susceptible to landslide erosion.

In addition to that, the erosion risk categories that I mentioned earlier, they were assigned to three land cover classes as well, independently. We looked at the top ten percent and thirty percent in pasture land and looked at the top ten percent in forestry and then in non-forestry woody vegetation.

A couple of points here on some of the mapping limitations. They were originally designed to identify potential erosion risk and enable prioritisation of sediment mitigations. The mapping didn't take into account things like the practicality of a design and cost – those kind of aspects.

It's probably been raised by a few submitters as well about some of the pixilation for some of the smaller areas of land that might be mapped. That was considered but no aggregation was applied to the mapping at this stage. The mapping was kept as raw as possible in that respect, so if there was a small area that met the criteria of being part of the surficial erosion and the landslide risk that was kept in the mapping.

Then that last point there is just to give a little bit more clarity on the quantile. The relative risks, so the top highest or the highest erosion risk is the top ten percent, but that was calculated per whaitua. If you were comparing that to loads, the actual load for that top ten percent might be different across the two, but we were looking at it purely as risk.

A couple of points that were actually raised in my rebuttal as well, were just that the erosion risk mapping does not account for sediment delivery processes, or the connection to a stream. Specific activities such as earthworks, forestry harvest were not considered.

Then similarly already implemented erosion control measures, if they were not part of the baseline mapping or the data that went into the baseline mapping then they wouldn't have been considered.

Mr Willis might speak to this in a minute, but there were some revisions made to this earlier this year. Part of the original mapping work Collaborations did summarise stream back erosion as well, and that has since been included in some of the mapping work. A revised version of the erosion risk mapping was requested, so that was where we took away the top thirty percent and we just retained the top ten percent, the highest erosion risk, and then changed the terminology to be called potential erosion risk.

Hopefully that gives a little bit of a timeline and overview of how that mapping was carried out.

Thank you. Back to you Mr Willis.

Willis: Thank you Tom. As I said, there was a lot of submissions to have to deal with and lots of points raised. The mapping that Mr Nation just referred to was a combination of our discussions and response to submissions, as to how we thought we could give effect to or appropriately respond to many of the submissions which seemed to have some validity about them. They were really concerned about perhaps the fact that the maps didn't look high risk land then when they applied those maps on their own farms, or own properties; and some properties being significantly affected by the thirty percent – because it's not thirty percent per property, of course it's thirty percent over the catchment, which means that it's quite a high proportion of some properties.

We thought what is a better way or what is another way to try and target down the amount that we ought to be asking people to treat?

[01.25.00]

What we have tried to do by focussing down on that ten percent (which is one of the recommendations up here, is to focus on that ten percent, that highest risk that Mr Nation was referring to) was to try and align it much more with where the Council's level of support is at. This is what Mr Peryer is going to talk about shortly, but it's already obviously out there helping landowners do retirement planting, pole planting, erosion control measures and has got a reasonably substantive programme in that space.
By looking at that we could kind of calibrate that to what we are asking of landowners. We ought to be in broad terms asking or focusing the erosion risk ask to a level where Council is able to support land owners.

That's the first thing we have done, is to focus down at ten percent rather than the thirty percent.

The other point, and I have already raised this, we acknowledge the fact as I said that full revegetation won't be feasible everywhere all the time, and so the recommendation is to open that up to a wider range of erosion management options. Again, Mr Peryer will talk about what they are and how effective they are.

We've produced new maps and the other point with those new maps is the status of those maps. The idea was of course initially that they were pass/fail kind of maps, hard lines, and really that didn't work. When you focused in on the detail it didn't always make sense.

So, point acknowledged and we are suggesting now that the maps be used as a guide. They're a starting point. They're a resource for the person doing and certifying the Farm Environment Plan. The idea would be you pick it up, you look at that, you ground truth it, you add or take away from those maps as necessary to reflect real erosion risk on the ground and you produce your own mapped area for each farm through the Farm Environment Plan.

On the other side of the equation I suppose we have added in the requirement, as Mr Nation said, to look at and consider the stream bank erosion which hadn't been expressly in there before. Or, we might see a greater focus on riparian planting through the Farm Environment Plans and achieving that stream shading that we talked about earlier – that's the link to that side of things.

We've changed the terminology – I think Mr Nation has mentioned that. We've now got a term called the "potential risk erosion land" subject to ground-truthing and priority of risk treatment land which is the mapped area in a Farm Environment Plan.

The other thing that's quite important to note is the last point in that slide, is that we are not recommending that an Erosion Risk Treatment Plan be part of every single Farm Environment Plan; but really are focusing that down on the FMUs which are not compliant with the suspended sediment TAS. So, that's a more targeted approach which is another thing that submitters were concerned about – that it was too broad-brush. They have a short, notified approach.

I think that just about does that slide. I did that without looking at that slide but I think I've covered every point. I don't know at this point whether that's the right point to pause for questions on this topic Chair.

McGarry: Thanks for your evidence Mr Nation, it's pretty clear. I don't have any questions for you. I guess just reflecting on your evidence that it's now the highest potential erosion, it's the top ten percent. Do you think perhaps the word "highest" needs to remain, so it would be the highest potential erosion risk land, acknowledging that it may not be all of the land that's potentially got erosion risk, but it's really just giving an indication of the highest level.

Any thoughts on that? Then I would like to hear from you too Mr Willis?

Nation: I think that's probably best handled by Mr Willis - in terms of the terminology, whether it's to include highest as well as potential.

[01.30.05]

It could be kept there. Again, the terminology with highest, high and very high is relatively arbitrary. We decided with the Council that the top ten percent was going to be called "highest". So whether that's going to add even more confusion I'm not sure. Maybe Mr Willis might be able to…

Willis: I thought you were doing rather well there actually. I was going to say something very similar.

To be honest, there is nothing magical about the word "high" and "highest" or about ten percent or twenty percent. It is a little bit arbitrary, apart from the fact that we are now focusing, as I said, to try and align with Council's level of support. I'm not sure we need to do that but if the panel wanted to do that I don't it would be a major problem.

McGarry: I guess it gets to my second point. The trouble is if you look at a map like this, to a lay person, and it says "potential erosion risk land" that then suggests that everything that's not highlighted hasn't got any potential erosion risk. I guess that's what concerns me about these maps.

The word "highest" might help with that, but I don't think it gets all of the way. If it said "highest" and then maybe in brackets ten percent potential erosion risk, then that might go some way.

My next question is, do you think there needs to be a note on the bottom of these maps? At the moment, it says "This version of the map is not complete," and I'm wondering whether a note needs to be put on these maps acknowledging that these maps are just the highest ten percent at a particular date of time. It is not by any way a complete picture of erosion risk in the whaitua.

I just see a real risk here of these maps being used quite definitively.

I also wonder whether that note needs to be something along the lines of that this is a guide. Because at the moment, as it sits with the other maps, there's nothing on there to indicate any of that.

Willis: Thank you for that. I take the point now you've explained it a bit further. I think you're absolutely right, because the maps do not indicate every bit of land which might have erosion risk. If it conveys that opinion then that would be a bad message. So I take the point.
We could perhaps say "potential high erosion risk land". That might be another way. Highest was only significant under the plan as we notified it, but in terms of every day usage perhaps "potential high erosion risk" might be a good option.

I think in my mind the fact the maps are only part of the issue is effectively explained in Schedule 36, but you're right, it's not currently on the maps. We could put some sort of notation on that says something to the effect that these maps indicate a starting point for assessment of risk and do not indicate the full extent of erosion risk that may be present on these parcels, or whatever.

Something like that, is that what we are talking about?

McGarry: Yeah, that's exactly what I am getting at. I don't think the word "highest" is a problem, and whether it was the highest five percent or ten percent doesn't matter. To me, the word "highest" says that we have identified the highest risk. I think then the note needs to acknowledge that it's for guidance only and that site specific investigations would need to be done, and that this is only really a guide to show where those investigations are needed more than in other areas. Something along those lines.

Willis: Yes. I'm sure that's something we can take away, think about and come back to you on. The only point I would say with "highest" is that it may not be the highest on a particular property because the mapping as we know is not without limitations. When you get onto a property, actually there might be a piece of that property that is higher – higher than mapped.

That's my slight reluctance about the word "highest" that's all. We'll definitely come back to you on that point.

Wratt: That use of the percentage for the erosion risk, as I recollect one of Les Basher's criticisms was the use of a comparative percentage rather than an absolute erosion risk.

[01.35.05]

From a pragmatic perspective, what I'm interpreting is that you're saying that both these whaitua the top ten percent is high risk erosion land. But, in theory, you could have the top ten percent of erosion risk in one whaitua actually not being of particularly actual high erosion risk.

I guess I'm just interested in why, and I think you have teased it out, why use that percentage rather than some sort of absolute measure.

Willis: Yes, I did deal with this in my rebuttal evidence to Mr Basher. It may be something that Mr Nation or Mr Blyth could take up further.

I guess the point is we're kind of living in the NPS-FM space and so we need to achieve an attribute. Therefore, what's risky in this area or what's risking the attribute being met here, will be different to what's risking the attribute somewhere else – in terms of the level of erosion risk.

I guess that's the point: is that yes, we have taken a relative rather absolute. We haven't said it's a five tonne per hectare loss rate is the point we are going to cut it at. Yes, that probably isn't relevant or wouldn't be relevant in these particular whaitua. We need to calibrate. To some extent we need to try and calibrate the amount of land we target here to achieve the outcomes for this place. That's the argument I put in my rebuttal, which I think is still valid.

Again, the others may have a better explanation that I have been able to give you, but that certainly was in my rebuttal evidence.

Wratt: The assumption is that the top ten percent in these two whaitua is all high erosion risk in terms of risk of sedimentation. You could in theory then have another

catchment where it might only be top five percent that was of concern, in theory – I'm just hypothesizing here.

Willis: Yes, that's how I would see it. If you went somewhere else and it wasn't the same visual clarity suspended sediment issue then you would take a much less stringent approach to your erosion risk metric.

Wratt: Thank you. Just another question.

One of the points somewhere was around connectivity to the stream network. Can you just explain that a little bit?

Nation: I can explain a little bit about that. There are methods to incorporate a sediment delivery ratio in some of the mapping, but at the time some of the more complicated and more advanced methodology requires an inventory of landslide scars and a few other bits and pieces. That wasn't considered as part of the original mapping.

However (and Mr Blyth will speak a little bit about this later) there are ways to apply a sediment delivery ratio. I know Mr Basher talked about that in his submission, where you apply a factor as to how much of that erosion might be reaching a stream. In our case, or in the case of this mapping, it wouldn't really have affected the relativity. In this way you apply a nominal factor one, or point-five, or point-two, to say a percentage of this erosion is going to hit the stream.

So from the point of view of this mapping, because it was relative, that wouldn't have affected where those pixels were on the map in this case.

But, to your point, yes the mapping doesn't explicitly include any sediment delivery ratio.

Blyth: I can add to that – that the CLM modelling which I talk about later on didn't have a sediment delivery ration incorporated to help with the calibration process. We calibrated to GW's continuous monitoring sites in Te Awarua-o-Porirua which are three suspended sediment monitoring sites.

If you are actually looking at Mr Nation's rebuttal evidence, Appendix A, there's a Figure 1 in there which shows an overlay of highly erodible land which has connection to stream network in dark red and not connected to stream network in pink. That's I guess an approach of trying to identify in a polygon where you may have erosion that might not be connected to a stream, but just in that small snippet you can easily see overlays with a number of streams. It could just be due to the fact that it's developed off a 15 metre [01.40.02] rather than a one or five metre LIDAR based approach.

[01.40.05]

There's limitations even with ones that have already attempted to do this in existing mapping is what I am getting at.

Wratt: Again what I'm interpreting is what you're really saying now is the way that you changed the provisions through your rebuttal process is acknowledging that there is some uncertainties, and that these maps now are a guide and that sort of

detailed analysis is what would be done in the process of the Farm Environment Plan?

Blyth: Yes, that's correct. I think that's the appropriate way to utilise some of these maps, is doing a ground truth exercise in identifying on the site. Because no maps, even the soil maps that exist, they might not have been mapped in detail to predict where there's erosion prone soils, or where there's say hard outcroppings of [01.40.59]. You often need to get down to the ground level to assess some of that risk. So these point you in the right direction and then they'll be qualified by somebody on the ground.

Stevenson: Could you confirm for me, Mr Nation probably, my understanding is that due to the limitations you've outlined in the methodology to get these erosion risk maps, combined with the on-farm assessments through the Farm Environment Plans are the proposed approach. But, given that uncertainty how do you know whether this approach will deliver the sediment reductions needed to meet the visual clarity TAS in those FMUs that don't currently meet it.

Simple wording: how do you know this is going to work and how do you know it's not going to be overreach?

Nation: Thanks for that question. I think that is best handled by Mr Blyth – some of his presentation a little bit later on. Mr Blyth will go through exactly that, about how we use the contaminant load model, some of the erosion mapping, to then check to see the effectiveness at the TAS.

McGarry: Just while I'm flicking through the other maps Mr Willis, I don't think there's any recommendations to change the title of any of the other maps which all still say "highest erosion risk land". I'm looking at 91 and 92.

I wonder if there's some consequential amendments to other maps that are required, acknowledging exactly the same points, or are these only specific to pasture? It's just the consistency issue really. If you look through all the others these use "highest erosion risk land, plantation forestry". Again would it be appropriate to be highest potential erosion risk land, and again to consider whether a similar note, that we have just talked about, actually needs to go on some of these other plans as well.

Willis: I haven't got it in front of me at the moment, but those maps you're referring to will be deleted.

We have pasture, woody vegetation and forestry erosion mapping. They were separate maps, but under my recommendations they will be brought together in a single map; so the maps with the headings you referred to, it may not be clear on there sorry, but the intention is that they would be deleted, and we'll just have the single map which would have, as you say, the potential high or highest erosion risk or whatever we decide to call it.

I think we're on the same page, but that may not have been clear from that sorry.

Chair: I think the definitions might benefit from some review. In Schedule 36 the additional requirements for Farm Environment Plans Mr Willis I think there is some inconsistent references. For example, under section (e) Erosion Risk Treatment Plan, just underneath where you've got number two struck out, there's a reference there to priority erosion risk treatment land, which I don't actually think is a defined term.

[01.45.15]

There's potential erosion risk land, there's erosion risk treatment plan, there's priority erosion treatment plan, but not priority erosion risk treatment land. I will just leave that with you. I think a bit of a review of the definitions is needed there.

Can I check my understanding? I don't want to get into Mr Watson's area too much, but I guess how potential erosion risk land is used. So the mapping that Mr Nation has done, as I understand it that also informs some of the forestry provisions. So it might be something that we come to tomorrow. As I understand, some of those provisions put restrictions in place where there is potential erosion risk land that's identified.

I guess I'm still a bit unclear about how that mapping is used to manage activities and manage sediment loss across both topics, across both the rural land and forestry. Maybe that will become clear once we have Mr Watson's presentation tomorrow.

My main point I guess for now is that I think some of those definitions need to be looked at again.

Have I got it right that the 20 percent slope…so that's the definition of erosion prone land in the operative Regional Plan, that's been deleted through these provisions, or is that staying?

Willis: The definition will remain, yes.

Chair: The definition will remain, but it doesn't apply to Schedule 36?

Willis: It's not used in Schedule 36, no. It applies mainly in vegetation clearance rules at the moment.

Thank you for that. I do now see your issue with the definition. The definition is right, it's the terminology that I've used – potential erosion and risk land in some places and in other places potential erosion treatment land. It just needs to be [01.48.42]. Thank you. Just one of those things.

Chair: One more and it's on Schedule 36 again. It follows on from what we are talking about before with the stock exclusion actually. Under (e) Erosion Risk Treatment Plan, this is in Schedule 36, if you turn to the provisions that are about stock exclusion it's under (f) which is being struck out?

Willis: No, (f) should remain actually.

Chair: Should remain. Yes, I've seen (f) referred to somewhere. It's under Item 1 there, actions, time down [01.49.27] stages, and have an active bed greater than one metre wide at any point on the property by 2030 – which relates to that point I mentioned before lunch. I am not sure that the various timeframes work. Having another look at them would be good. Why I say that is because that says 2030; the stock exclusion rule we were looking at R…

[01.50.05]

Willis: R27 is it, or 26?

Chair: Is it 29?

Willis: Twenty-eight I think.

Chair: R28 there's you're permitted from 30 December 2028 you've complied with these things, including have a certified Farm Plan.

Willis: If I can just intervene there for a second. That is intended to mean that the rule really only starts to apply from 2028, so in 2028 you need to…

Chair: Yes, but to be permitted you need to have a certified Farm Environment Plan which complies with the requirements of (f), right, in Schedule 36?

Willis: Yes.

Chair: My question is simply can you do that if Schedule (f) says you need to have done some things by 2030?

Willis: This raises the issues we were talking about earlier. I think what I will do is I will come back comprehensively on all those bundles of stock exclusion and date issues for you so we get it clear.

I have actually worked through this and I was pretty confident I had it right, but now you've got me doubting myself, so I will just double-check.

Chair: Thank you. Sorry, that was moving a bit away from the erosion issues. Sorry about that.

Anything else on erosion mapping?

Kake: The table that was provided this morning and the difference in I suppose the percentiles here, do you want to just talk us through a little bit because there are some, I think, kind of significant changes in some of these numbers. Pointing out just a couple of those variances in your explanation.

Willis: Thank you Commissioner. Table 1 in my evidence was initially designed to bring together into one place some of the key modelling information that was across three or four different bits of evidence, and I just thought it might be helpful to bring it together. It was really just trying to show what the target was and how much reduction we had to achieve to get to where we needed to get to, and then what had initially been modelled as being what we thought PC1 as notified would achieve.

Mr Blyth is going to give you the update on that in terms of what we think the provisions now recommended will achieve. But, essentially all this data has replaced Column A which used some provisional numbers. The ones in this table are the final numbers that were in evidence, and that had implications for all the numbers in brackets that followed. There is one or two other changes, but I won't confuse you with those at the moment.

So all it is really saying in Column A is that's what Mr Blyth and his crew modelled as being likely to be achieved from the provisions as notified. Column B was around what we need to achieve to achieve the attribute states as notified – and obviously the number in brackets is a variance. Column C is about what the revised targets would be according to Mr Blyth, and if you look at his Hearing Stream 2 evidence he proposes revised targets based on different modelling and updated data and also a change to the Mangaroa due to the issue with natural discolouration. Column C is the numbers that are now proposed to go into the plan as the targets. Then Column D is more for interest and that was simply saying if you use a different baseline and if you look at the more recent data that changes what the ask is in terms of how much reduction we need to get.

But, the one that we really should be focusing on at the moment is Column C.

[01.55.00]

Then in addition to this little piece of analysis – which it's not analysis, it's just bringing together data – Mr Blyth will tell you about the latest modelling, about how much those erosion management provisions will achieve relative to that Column C.

Does that make sense? Sorry that was a long explanation.

Kake: It might come up later but just wanting to cross-reference the tables I suppose, 8.4 and 9.2 and where these relate to. Thank you.

Wratt: A question around WH.P23 and P.P22. The chapeaux for WH.P23 within part freshwater management unit select (c) for the target attribute state for suspended fine sediment; whereas P.P22 doesn't have that proviso on the end. Is that intentional?

I guess the other question related to that is in the part FMUs that don't exceed the target attribute state is there no requirement for the Farm Environment Plans to address erosion issues?

Willis: I will deal with the second one first because it's easier.

The answer to your second question is no. If you don't require an Erosion Risk Treatment Plan that will be because you're not in a catchment or a part FMU which is exceeding its suspended sediment, but you still have to do a Farm Environment Plan and that Farm Environment Plan, if you look at Schedule Z, still says you have to look at sediment loss risk. So you will still need to do a risk assessment of the risk on that particular farm and put some mitigation in place to address it. But, it doesn't go as far as what an Erosion Risk Treatment Plan will do, which requires a much more rigorous look at using that mapped

area as a guide and a much more prescriptive response in terms of what you have to do about it.

It's a little bit of levels of intensity in terms of how much response we would expect.

Wratt: So if your part-FMU doesn't exceed the sediment measures, and you have land on your farm that is over that ten percent, is it in that ten percent highest erosion risk, you don't have the same requirement to address it as you do if you're one of those catchments that exceed the TAS?

Willis: I think that's a fair question which I've asked myself several times. I think the answer is it will depend partly on the ability of the farmer to do something about it, but they probably won't get the supporting assistance from Council, because that will be focused on the other areas of where catchments are already exceeding.

So, yes we would expect it but because there's not the support there we wouldn't be expecting as much response probably as in the other areas where they're likely to get support from Council.

Wratt: So in essence that's a matter of prioritising where you're putting your resources?

Willis: It is a matter of prioritising, that's right. Having said that, if you went onto a farm as a farm planner and certifier and you saw a significant area of erosion risk then I would expect them to do something about that. It's not as though severe issues are not going to be looked at and addressed.

Wratt: There's no regulatory requirement then for you to address it, or for the farmer to address it?

Willis: Well there is but it's not as specific. Schedule Z says you have to look at the risk of erosion and you have to put mitigations in place to address that risk. It doesn't say you have to do an erosion risk management plan and look at the planning maps and look at the treatment options in the same level of prescription that those other ones we'll have to do.

It's a little bit grey but I think the priorities quite clear. Does that make sense?

Wratt: Mm.

Willis: You another question. I will double-check this but my recollection from writing these provisions is that in…

Wratt: So the chapeaux on P.P22 doesn't mention exceeding the target attribute state, but then when you read the text it says "within part-FMUs that exceed the target attribute state for suspended fine sediment."

[02.00.10]

It's just it's in the chapeaux for Te Whanganui-a-Tara, but it's not in the Porirua chapeaux.

Willis: That is because the wording that follows is different. In the Porirua it's only the Takapū catchment that is captured. I think the wording is to do with that from recollection.

Wratt: The wording looks the same.

Willis: I will double-check this, rather than trying to do it just right now. It may be that I made a mistake, or it may be that I was trying to achieve something to do with the fact that there's only one catchment or part-FMU in that whaitua.

Wratt: But, if in the future it became more than the one catchment.

Willis: Yes, I'll look at that and come back.

Wratt: Just check it.

Willis: It's a fair point.

McGarry: Just looking Policy P22 and it refers you to part-F of Schedule 36, then when you go to 36 that is just for the Makarā catchment – Farm Environment Plans for the Makarā catchment must include.

It just seems to narrow down then to one catchment, whereas the policy is very broad and captures other part-FMUs.

Willis: Sorry, which?

McGarry: Policy P.P22 and (c) refers to part-F of Schedule 36 and now when I go to (f) this is just stock exclusion in the Makarā catchment. I'm a little confused how that works.

Willis: I'm sorry Commissioner. Can you just take me to the policy you're referring to?

McGarry: Policy P.P22.

Willis: Yes, part (c)?

McGarry: Yes, (c). It's got to be in accordance with part (f) of Schedule 36. Then when I got to the amended schedule…

Willis: You've identified an error. It should be part (e) not part (f).

McGarry: It should be (e)?

Willis: Yes, thank you, which is the Erosion Risk Treatment Plan.

Chair: Mr Willis, the replacement table you've tabled this morning, I understand that this doesn't take account of modelled reductions that could be achieved through the forestry and earthworks – this is farming. I'm just interested in talking a bit about this overreaching issue. Is it purely cost? Is it saying that if the provisions are going to be requiring more than what's actually needed to achieve the TAS it becomes over-regulation additional cost?

I just want to get your view on that because my reading of the NPS-FM is that if actions can be taken to give effect to te mana o te wai and achieve waiora faster, in the context of the Regional Plan Provisions, why is that a problem?

[02.05.05]

Willis: I don't think that would be a problem if we could do that efficiently and cost effectively. I think the issue here Commissioner is more the other way and we won't necessarily achieve all the attribute states everywhere. Overreach is not a major problem for us I don't think.

I don't think we are being more stringent than we have to be anywhere to get to the state where needed.

Chair: Sorry, I didn't quite get the bit about not achieving the TAS elsewhere.

Willis: On that table, just to be clear – let's just look at the notified situation, which is columns A and B. The red numbers are where we are not going to achieve; so we're not overreaching I guess were under-reaching. I'm just saying that I didn't think overreach would be a big problem for us because we would be struggling to overreach too much in too many places. Our problem is the other side we are going to be struggling to reach some of the attribute states in some places.

Chair: It's column C that's the important one isn't it, because we are measuring against that baseline rather than current state.

Willis: That's correct. I guess it was more for interest to say things might be getting better, but we can't guarantee that. It's a question for Mr Blyth really, but you've got to take a long term ten year sequence to understand what's happening – particularly the sediment which I understand is so much dependent on climatic conditions and climatic patterns.

Chair: Then if you do add the benefits to be achieved through forestry and earthworks controls you would see that the trend would be going up again, wouldn't it, with the modelling?

Willis: That's right. As is always the case when we are dealing with these issues we don't have all the information together. What's been done effectively the rural provisions are being modelled, and the effect of the other provisions hasn't been modelled at this point. But, you have to understand that there is a bit more to be gained than is represented here.

McGarry: Mr Willis, it applies across the next topics as well as yours, but I guess what we are struggling with on this side of the table is this lack of certainty as to whether a consent is triggered or not and the fact that that could move over time. I guess in mind I've thought about if we had a couple of years of extreme storm events and the TAS was to change, then the activities of the catchment might not have changed but the monitoring the streams has because of those events over time. You've just sort of hit the nail on the head by saying that these trends need a ten year period to be set. My understanding to this point in time was that the TAS will be set through PC1 and will not be able to be amended until there is a plan change.

If that's the case, why would we try and have a system where the trigger is a moveable target? Why would we not just say at this point in time based on the information we've got over the last period that these are the catchments where the TAS is not met in these parameters and consents are therefore required in these catchments, i.e. you're identifying sensitive catchments, or highly sensitive ones, versus others that may not be so sensitive?

Then thinking that a plan is only there for a ten year period, theoretically, then you would look at the sensitivities of the catchments in the future to see whether your actions and your levers and the mechanisms that you've been using the sensitive catchments have in fact made any difference and whether other catchments have become more sensitive over time, which would give certainty to resource users as to whether a consent is or isn't required.

Have you got a response from that from your rural land perspective?

[02.10.00]

Willis: From my perspective that is what my provisions do, I believe. The rural provisions say in certain catchments you need an Erosion Risk Treatment Plan and if you don't have that you need a consent.

I think it's a very valid point by the way. The only point where the potential moving attribute status is an issue is where once you need a consent for a land use change, or because you decline to get a Farm Environment Plan, the only time that only moving status of a catchment comes into play is in the determination of whether you're discretionary or non-compliant. That was the point we had traversed a little earlier.

For example, going back to the first point, which is are we clear about the catchments in which rules provide? I think the rural provisions we are because we say in Takapū for example you need to have an Erosion Risk Treatment Plan and that Erosion Risk Treatment Plan needs to address that ten person ground-truth erosion.

I think that's quite clear and in Te Whanganui-a-Tara it's the same. We've itemised the catchments where you need that.

I think the point you are raising is valid. I'm just not sure it applies to the rural provisions because I don't think we are at risk of things changing and then upsetting the way the plan is meant to work. I can't speak for the other authors. They will talk to that tomorrow I'm sure.

Does that make sense?

McGarry: It does. I guess we are all probably rightly concerned on this side of the table. It's that certainty of knowing whether or not it's triggered. Some of the language in the provisions talk about the limits in the TAS table, but it's actually using the TAS as a trigger rather than a limit in itself. Because presumably you would trigger a consent and probably you would still get a consent, but it just might be you've got to do some extra things to be able to reduce your contribution to the catchment.

So I do wonder if it's some of the language in the provisions, as well as how they work.

I'm not sure if I can see Dr Greer is itching to say something. I will let him respond as well. I guess that's where probably for this week a lot of our focus on this side of the table is really on that trying to find some certainty as to triggering a consent or not.

Greer: Just on that, on page-16 of my rebuttal evidence, I provide a flowchart of the decision-making process that needs to go into determining whether a TAS is met or not, and it needs to partial out those effects of climate. It doesn't work if we just have a storm and it blows out the TAS. If a TAS is being met and it's no longer being met, you would need to be able to attribute that to a land use change to say the TAS is no longer being met, and that will take time.

In my recommended wording to Mr Watson's amendment I suggested that until such time as a full report can be developed it's a comparison of the baseline versus the target that dictates whether you are meeting or not.

So if Council can't get enough data to do a detailed analysis it is the baseline state which determines the activity status that you're operating under.

Chair: So why couldn't it all just be pegged to baseline? I see for example in Policy P21, which is the one about nitrogen discharges, it's a policy but it talks about reducing discharges by ensuring part-FMUs "where the baseline state of dissolved or inorganic nitrogen exceeds the TAS then the nitrogen discharge risk is reduced to the extent reasonably practicable." So that doesn't refer to the potentially moving state that's pegged to a baseline.

What would be the consequences if that change of land use provision as well, whether you're discretionary or non-compliant, was also dependent on baseline? Until there's a plan change that may be an amend baseline.

[02.15.10]

Willis: I'm sorry Commissioner, I may have just lost you part way through that question. I'm not sure I can respond to it. Can you have another crack at it?

Chair: It's the moving. What Commissioner McGarry referred to. It was moving target attribute state. Why not peg them all to baseline state? Why build in what is the state of that particular monitoring point?

Willis: When you say baseline you mean current state, the state they are now do you mean? So we'd make a decision on what status you are or whether you need a consent based on how we classify them today?

Chair: The TAS tables have baseline, so whatever that numeric is.

Willis: There's a difference between baseline and current state, I think. A fixed point is the discussion isn't it. We could do that I suppose. I would like to think about that, but I think that's an option. We could do that. So whether you're non-compliant or discretionary will depend on the status of that catchment now. That's another way we can do it.

Chair: Yes, status now or baseline.

Willis: Or, what it was five years ago for example, that's right we could do that.

Chair: I just noticed that's sort of what the policy seems to be directing as a reference there to baseline state and reducing the nitrogen discharges in relation to that. At the very least I think there's possibly a disjunct between what that policy is requiring and then perhaps what the rules might be requiring if they are linked to a moving TAS.

By all means reflect on that.

Willis: Just so you know what was in my mind or how I read that provision, and I'm talking Policy P21(c)(iii). In my mind that's a direction that would affect the implementation of the Farm Environment Plan. If a catchment were exceeding organic nitrogen (which we don't have any but if it was) the Farm Environment Plan would have to show reductions and not just maintenance of nitrogen losses.

That's operating within a permitted activity environment of course.

Sorry, just to complete that, that was all about trying to keep faith with the idea that we are about maintaining water quality, and actually improving. It's this old thing about maintaining where it's okay and where it's not okay we need to see some improvement. That's what that is trying to reflect. In this case, it's through the Farm Environment Plan or if consent was required obviously through the consent.

Kake: I just want to double-check the figure in your rebuttal Dr Greer. The Figure 1 is what you're talking about with respect to the methodology?

Greer: Yes.

Kake: In the paragraph, I think there's a subsequent paragraph before or after, it says that it's going to be considered in Hearing Stream 4, because we can see that it is obviously going to go across a number of different activities. Can you just confirm I suppose that that's going to be something that will be touched on in the next hearing stream, or is this the last opportunity to discuss that methodology now?

Greer: This hasn't been discussed in detail with the Council team or the Policy team. My understanding was that it will probably need to be covered and discussed more in the urban provision side of things, as well as during this hearing. But, then probably a final approach will be put forward during the right of reply, the integration right of reply.

[02.20.00]

That will impact and probably need a footnote and maybe a technical schedule into Tables 8.4 and 9.2, plus amendment to provision so it really does fit into that integration side of things.

Chair: Just a very quick question Dr Greer, just on your Figure 1, it's just a very small typo. I just want to understand that I am not missing anything. If you've got Figure 1 there, just down the left-hand side where you have got, "Is the TAS currently being met? No." Then the next box, is that "Has the TAS been met since the baseline period?" Is that what that should say?

Greer: Yes, sorry. Visio does not have a spellcheck on it.

Chair: The TAS has been met. Thanks.

Have we come to the end of your…

Willis: We've still got Farm Environment Plans, although everything I really need to say I think has been said. We've got Mr Peryer sitting here who is dying to tell you all about how Farm Environment Plans work.
That's Issue 10. We know when we need them. We've been over that. I've told you about wanting to align them, but be independent with the national regulation. I'm going to hand you over to Mr Peryer who is going to tell you all about how they do Farm Environment Plans now and how successful they are.

Peryer: I note we've got thirteen minutes, so do I just go until three, or go beyond?

Chair: Just start and we'll see where we get to.

Peryer: You will see I've got a few questions to answer there. As I introduce myself, I work in the Environment Restoration Team here at Greater Wellington. I might be wearing formal attire today but a lot of my ten year career in Greater Wellington has been spent in gumboots, out there talking to farmers helping them understand environmental issues and what they can do about it. From that perspective I've been brought in to give an on-the-ground implementation point of view with my evidence.

I'm going to attempt to answer those questions by working through three topics. Firstly, Environment Restoration Programmes. I am going to talk about our existing incentive programmes and how we support landowners to undertake actions. That should be taken in context with Method 44. I am going to introduce how they operate and the extent of funding within those programmes and how much is actually done on the ground through to those programmes.

I'm going to talk about Farm Environment Plans and specifically I will talk about the Council's certified Farm Environment Plan which has been referred to quite a bit today.

I am going to talk about what's expected within those current farm plans, including how nitrogen is managed through Schedule Z.

I will talk about expected costs and the implementation timeframe around farm plans.

Finally, I will talk about erosion risk treatment which is directly linked to the proposed Farm Environment Plan provisions. I will talk about what a typical

certified Farm Environment Plan would include under Schedule 36, and how this approach differs from regulating revegetation on erosion prone land, and how this fits within the current incentives programmes.

The Greater Wellington Environment Restoration Team has five programmes, four of which are incentive programmes. The fifth programme is largely irrelevant to Plan Change 1. The four incentive programmes are available to support landowners. These programmes have a combined investment of around $5million for the region, for the '25-26 year. They're designed to support landowners in approving land use resilience, water quality and biodiversity – so a range of outcomes.

[02.25.00]

Most of them operate on a fifty percent subsidy and that's with a few exceptions, and that's mainly to have landowners brought into the projects that are being undertaken.

There's a team of environment restoration advisors who administer these programmes. They are not only limited to administering programmes but they are also provide an advisory service supporting the adoption of the good management practices on farms.

Each of these programmes support specific activities as outlined.

The work under each programme is prioritised either on a catchment impact basis or on whether that action gives highest effect for that activity. An example of that is that in the Wellington Regional Erosion Control Initiative, which is the programme tasked with treating erosion prone land, projects that are given approval or highest priority for approval are those that have proportionately the highest amount of erosion prone land that is getting treated.

Another example for the sustainable land use fund is if a project is put forward that directly addresses a catchment issue, and say the catchment issue is E.coli, if the project is directly addressing that in a catchment that has a high E.coli problem for example that will be given a higher priority.

There's a bit of nuance to it but projects with the highest impact as a general sense are prioritised.

In terms of how much is done under the current programmes in the past two years, my evidence outlines in Table 3 the extent of work over the past two years and I will just note that is two years' worth of work summarised in that table.

If we take the Wellington Regional Erosion Control Initiative, or WRECI programme (it's a bit of mouthful) in terms of how much was achieved through that programme the amount of erosion prone land that was treated on average was forty hectares per year in Te Awarua-o-Porirua and ninety hectares per year in Te Whanganui-a-Tara. I think Mr Blyth has used this data for his evidence.

You will also note that the other programmes have supported quite a range of actions in these whaitua, including the riparian programme in Te Whanganui-a-Tara has done quite a large amount of work.

I also wanted to acknowledge that Greater Wellington is not the only source of funding to support actions on farms. In recent times the Porirua City Council through Jobs for Nature funding has had a programme supporting initially riparian planting at a hundred percent subsidy and more recently is starting to look at erosion prone land as well. They've achieved a huge amount of plants in the ground through that programme.

Community group initiatives are also another avenue. Catchment community groups are something we are seeing more of. They can access funding through a range of avenues and often they can hand this on to the private land owners trying to undertake work.

Just summarising the Erosion Restoration Programmes, the team is not just about funding; it's overall objective is driving behaviour change and that's both through advice and supporting the implementation of actions. Some of these actions are what we would expect to see in Farm Environment Plans.

Shifting to Farm Environment Plans I'm going to specifically talk about certified Farm Environment Plans. We have talked about freshwater farm plans and there's not much we really say about those at the moment given the pause and review of that.

Farm plans in general they are tailored risk-based tools. Certified Farm Environment Plans currently are required under the NRP and the requirements for the CFEPs are outlined in Schedule Z.

Under Schedule Z of the NRP this includes a risk assessment for nitrogen, phosphorous, sediment and E.coli and an action plan tailored to those risks.

[02.30.00]

As we've discussed, there is an outline in there around sediment, but it's not as comprehensive as Schedule 36 which I will talk about later.

The certified part of the certified Farm Environment Plans is an important thing to acknowledge. These Farm Environment Plans need to be certified by an accredited Farm Environment Plan certifier within GW, or GW undertakes the accreditation process. You will also see a reference to certified Farm Nutrient Advisor. That person has to undertake the risk assessment part of the farm plan. It's a little bit confusing, but in almost all instances the Farm Environment Plan certifier and the certified Farm Nutrient Advisor are the same person. It's just the different tasks involved.

At the time of submitting my written evidence we had two fully accredited and fifteen provisionally accredited certifiers. This number has grown since then and continues to grow.

This accreditation process is in place to ensure that those certifiers are suitably qualified and trained to be able to undertake this, particularly the risk assessment part of the farm plan.

I note also there has been some concern about the nitrogen or lack of nitrogen risk assessment tool. In my opinion the risk assessments undertaken by an accredited expert in nutrient management is a sufficient method for managing nitrogen risk.

Potential costs: these costs that I have in my written evidence relate to the current certified Farm Environment Plan programme and the feedback we've got from that. These are plans assessed Schedule Z.

In terms of cost, a simple landowner written plan where a certifier just needs to come and certify it is around a thousand dollars. We have seen complex farm systems with multiple blocks that require a lot of consultant input and they might cost as much as ten thousand dollars, but the average cost for the typical farmer is around that three to four thousand dollars.

I want to talk about the Environment Restoration Team alongside the Environment Regulation Team, are responsible for delivering this current CFEP programme and would be under the proposed provisions. We do not just administer the submission of CFEPs, we are also tasked with providing a whole lot of tools and resources to assist landowners and certifiers to develop these CFEPs. We also do a lot of engagement with community and landowners across these areas.

One of the things that was being talked about earlier in Method 44 is the CCCV - Catchment Context Challenges and Values. That is something that we'll also be developing. Despite even in this current certified Farm Environment Plan we are supplying that information given the value we see in it. That will outline at the time of preparing those plans, will ensure that landowners and farm plan certifiers are well aware of the catchment context. That's the opportunities in terms of the types of things and actions we want to see happen either from a water quality perspective or cultural perspective.

Just shifting to erosion risks, the key distinction from the current Natural Resources Plan certified Farm Environment Plans is the addition of Schedule 36 and the Erosion Risk Treatment Plan which is just for those Te Whanganui-a-Tara and Takapū FMU.

This is a shift away from the regulated revegetation to a tailored whole-farm approach.

Another key distinction is that Schedule 36 is set up just slightly more tailored towards the type of farming in Te Whanganui-a-Tara and Takapū and the type of mitigations that we might expect to see on those types of farms – noting that the large majority of farms in these FMU are sheep and beef operations on hill country.

[02.35.15]

There is a slight difference in that Schedule Z set up for intensive farms. Much of Schedule Z still applies to farms in this catchment. There is just more detail that suits farms in these areas, in Schedule 36.

The shift away from the revegetation rules relied on a bit of feedback and evidence I had given around revegetation often being quite costly. I outline some costs of that in my evidence. In some instances the feasibility is quite limited as to whether you can do revegetation. It opens up a range of other options.

The CFEP approach allows for good management practices as well as the implementation of mitigations. A lot of our programmes support the actions that can be implemented for mitigations, but it is also worth acknowledging that the farm plan will include the adoption of good management practices, which is not something that can be financially supported, but can be recognised as a change of farm systems and farm management to improve environmental outcomes.

This approach in terms of the Erosion Risk Treatment Plan allows farms the ability to outline actions best suited to their properties and farming businesses. Despite being on the same types of land there is often differences and even just value sets between farmers, but farm systems and farm businesses where different mitigations or good management practices fit better than others.

I have outlined this and used a farm as an example - one of the early adopting farms that we've been working with who undertook a voluntary farm plan. This is purely to give an example of effective erosion treatment in action. In Table 5 of my evidence I outline that voluntary Farm Environment Plan. In Table 6 I've gone into a literature review around the effectiveness of a range of different mitigations available, and the key point being there that there is a vast range of mitigations available to farmers to address erosion and sediment and they can pick and choose what suits their system best. There's some examples there of some that have been picked out in a voluntary farm plan and the effectiveness of those there.

Again just referencing the Environment Restoration Team – most mitigations if considered impactful, so most of that list there of things on Table 6, if considered impactful towards catchment outcomes they will be eligible for financial support through those programmes.

Finally, I just want to cover the implementation of certified farm plans in PC1. I have estimated, based on some calculations, that around forty farms in Porirua and 90 farms in Te Whanganui-a-Tara will need certified Farm Environment Plans. I have proposed the dates in Table 4 there based on a phased rollout. Those three selections of FMU relate to the three what I would call distinctions of rural communities – noting that when we go to implement the certified Environment Plan Programme we'll be engaging on a community by community basis, so this kind of structures it in a way that helps implementation.

In terms of the timing these dates give Council enough time to prepare the necessary resources to support certified Farm Environment Plan rollout. This includes ensuring that certifiers are trained and that there's enough of them. I think we've covered it but these dates, there's six months from these dates for the Farm Plan to be certified.

[02.40.00]

In summary, I will just cover off that the Environment Restoration Programmes have comprehensive funding and advisory resources to support landowners.

Based on our certified Farm Environment Plan Programme GW would be able to implement a certified Farm Environment Programme as per the provisions.

In my opinion, certified Farm Environment Plans that include the Erosion Risk Treatment Plan as per Schedule 36 will be effective at addressing the water quality outcome sought in Plan Change 1.

Chair: Thank you very much. I know we are over but we'll just see if we've got any questions before we take the afternoon break.

Kake: Thank you. I basically alluded to this earlier when we were discussing Method M44 in the wording that's in the s.32AA it references in partnership with the primary sector and community, but there's no reference of mana whenua there. My point being, there's a clear clause under Regulation 4 that highlights the importance of including tangata whenua values. Just wondering if the Council has got a programme around that?

Peryer: I can talk about the current CCCV programme that we have which is something we are doing to help certified Farm Environment Plans, but we are not required to do under the current certified Farm Environment Plan Programmes, which includes in that tool there is reference to cultural opportunities and impacts within that catchment context. I would assume that under Method 44 the provision of catchment context challenges and values includes those cultural values in it. It absolutely would.

Kake: Short answer it will?

Peryer: It will.

Kake: Do we need to include reference to mana whenua then under that particular clause?

Peryer: Sorry, which clause were you talking about?

Kake: The opening paragraph there are some tracked changes under your s32AA. It's got "in partnership with the primary sector organisations and the community," and I am just wondering if we can include mana whenua there as well?

Peryer: I think that's a yes.

Kake: Thank you.

Kake: Just an additional question I suppose: there is I suppose the expectation that the Council will support plan developers, talking about farm plan developers, to identify and work with mana whenua to understand what that means in their respective catchments. Again going back to the regulation there is a particular reference to the Council training. Is that something that's underway as well?

Peryer: So the question is are the Farm Environment Plan certifiers trained in mana whenua values as well? I don't know the answer to that question off the top of my head. I can get back to you on that.

Kake: That would be good. I think it's because this is sitting in a non-regulatory method and when there's clear direction under the regulations as they currently stand.

Peryer: I think the point is well made Commissioner. I think we are probably guilty a little bit here of as I said the outset relying on the regulations for all sorts of things, including making sure that mana whenua values are well-woven. But, to take my point, which is I think these provisions ought to yes align and dovetail, but they also should be able to stand independently. I think your point is well made in that context. It's one of those issues. As I say, you're quite right, it's there in the Regulations at the moment, so assuming those regulations continue that will be picked up and applied here as well; but if they don't, where there is a risk that those values might be lost. Point taken.

Kake: I suppose it's going back to the point that this version of the plan has been notified under the previous version of the Act.

[02.45.05]

Those matters in terms of that previous version of the Act need to be taken into account I suppose by all of us, and how that's being considered here too. I will stop on that point.

McGarry: I am just interested whether there's any information to demonstrate either monitoring information or any sort of measurable improvements in aquatic ecosystems from the mechanisms you have talked us through – so I'm including the Farm Environment Plans and also the non-regulatory work. I guess I'm wondering if there's been any analysis done on the benefits of $5million to be spent in the next annual year and what the expected benefit to the environment is from that kind of spend. Is there any information in that kind of vein available?

Peryer: Each programme is set up a little bit differently. If the question is around the current certified Farm Environment Plan Programme and monitoring whether that's been effective, that was only introduced in 2023 and the actions related to those CFEPs won't have any measurable impact at this point in time.

There is monitoring. I'm not aware of the specifics of our incentive programmes. It depends programme by programme how that is monitored, but there is some data that we are gathering to see how impactful these are.

McGarry: I guess the answer is there's nothing you could provide us with, but that there is monitoring underway to demonstrate I guess the bang-for-buck and what you're getting for the money.

Peryer: Yeah, that would be correct.

Stevenson: I think it's fair to say I'm still struggling at a very high level with the clarity as to activity status, which depends on monitoring results, which from a plan user's perspective might not be immediately apparent. But, I am also struggling to understand how the methodology, particularly in this landowner support and Farm Environment Plan space is going to deliver against the standards required by PC1.

Mr Peryer thank you, you clearly said that it will, but I am interested in the evidence tying these proposed provisions to the TAS.

Peryer: That's a good question and I get it. There's quite a lot of dimensions to the answer to that. One of them, Dr Greer is probably chaffing to tell you. That's partly what his presentation is, which we are coming to. He does do that analysis.

I think it's fair to observe that we've adopted a Farm Environment Plan process, and I'm not just talking about here in Wellington but just generally it's been accepted around the country as the appropriate way to go. It's from Southland right through the country. But, there isn't a lot of empirical data on how effective they are. I think it's more driven by a social science perspective that these things are a better way of engaging with farmers than a resource consent. So it's largely driven by what's the best way we think we can change or help to modify and influence farming behaviour? Is it through a consenting process or is it through this process?

We can't say if you develop a Farm Environment Plan that on average you're going to get a twenty percent reduction in any particular [02.49.34]. We can't do that.

Having said that, I am aware in the dairy space that there has been one or two little studies. Up in the Waikato there was a study for example done by Dairy New Zealand. It's not very applicable here but it did show that if a farmer has adopted and applied sustainable milk plans being promoted by Dairy New Zealand that they would achieve I think it was something like a ten percent reduction in nitrogen.

[02.50.00]

So there has been one off studies, but there isn't anything that I would say is directly applicable to a catchment like this one, where we are dealing with dry stock farming which has got other and different challenges.

But, as I say, in terms of the bigger picture and what do we think it's going to achieve, that's what Mr Blyth and Dr Greer have been working on in terms of their modelling and assessment. You will hear more about that.

Chair: I'm sorry, I know we are over. We will stop soon and give everyone a break.

The question I had before lunch about Schedule Z and that reference to 2020, so the five year – so Schedule Z. I don't Mr Peryer if you're best to answer this. If you've got Schedule Z there, or Mr Willis might be able to find it, about the Farm Environment Plan demonstrating that measures adopted will avoid an increase in risk of loss of nitrogen etc. relative to what has occurred in the annual five year average before. So how will that work in practice given that these are just going to be rolled out?

Peryer: In practice for most farms we won't know what the annual average loss was at 2nd September 2020. There are a few things that we may be able to use to get a reference as to nitrogen loss such as inputs and things like fertiliser history, and if the farm has an overseer file then that can be used, otherwise it will be used at the time of writing the Farm Environment Plan, for the simple fact that there's no other way to measure it.

Willis: If I can just add to that. You're quite right to pick on the slight anomaly there, where we are relying on a schedule which as I said was initially drafted for a different purpose. That date was written for a set of farms that applied years ago. So if there is a slight anomaly or twist in the way these Schedule 36 and Schedule Z work together it's that exact point. We are aware of that.

There's two ways to approach that. It seems to me one is to apply really the approach that Mr Peryer was talking about, which is to be pragmatic and use what information you can get; or we could try and… we can't of course change Schedule Z, it's out of scope, which is one of the reasons it hasn't be changed, but we could try and develop a provision within Plan Change 36 that applies instead of that provision, which makes it a bit more transparent but you're going to be looked at in terms of your baseline position as and when you apply and not five years ago which is going to be very difficult to do.

McGarry: Do you mean bringing some of Schedule Z into Schedule 36 so that it would be a standalone schedule? Is that what you mean?

Willis: It wasn't what I had in mind but that's an option. In a couple of other places you will see that I've put notes in that say even though the definition in the RPS says this it applies differently in this area, kind of thing. I did that for the Farm Plan certifier for example, which is defined to be someone who certifies under Schedule Z. But, of course now we need a certifier under Schedule 36 as well.

I haven't thought about it deeply Commissioner but I think we could probably devise some drafting that said section Z applies, except that instead of that provision this provision applies; so we are not changing the schedule but we are just allowing a different provision to apply for the purpose of Schedule 36 or these whaitua. I haven't tried it but I'm sure it's possible.

Chair: Thank you. This is the last one for me. Mr Peryer is it right that when your team are talking to farmers and checking up on I guess compliance with the Farm Environment Plans in the future, where an activity is being undertaken that isn't complying with the Farm Environment Plan that could be a potential trigger for non-complying activity consent?

Peryer: I'm not sure if there's any activities that would be deemed no complying with the CFEP; rather, they would not complying with a rule.

[02.55.06]

If they have a CFEP outlined and they're undertaking an action that isn't in the CFEP, is that what you're referring to?

Chair: I was just looking say Rule WH.R27(d). Just checking I understand how that would work in practice. It's a permitted activity standard that the land use is undertaken in accordance with the Farm Environment Plan, and then Rule 32 has non-complying activity status if the use of land doesn't meet Rule 27.

Sorry, it might be more of a planning question.

Peryer: I understand. They're undertaking an activity that exceeded what they said they were doing in their certified Farm Environment Plan. In that instance it would

be a compliance approach which starts with our team advising and educating. Then it would go to compliance around if they continue to do that activity then we would follow our compliance process.

Chair: Potentially if that didn't resolve in the issue being addressed appropriately then there would be potential breach of Rule 32?

Peryer: Yeah, I think what would normally happen is if the farmer in that case said… [02.57.00] a good example, it might be a fertiliser application limit for example and they wanted to apply a certain level that was over what they said in their Farm Environment Plan and they didn't want to stop doing that, then they would need to consent. They would be in breach of the rule and they would require a consent.

Chair: I understand that. I guess it was just whether there was enough clarity in the wording in (d). So the land use is undertaking in accordance with the Farm Environment Plan.

Because looking at the examples you've given from the Strugnell farm for instance, there's scale isn't there, there's a scale of interventions and things that can be applied on the farm. Is it clear at what point which they have breached the permitted activity standard, I think that was the question?

Willis: So your question is, will it be clear when they've breached the rule? If they haven't complied with the Farm Environment Plan and therefore they've breached the rule, will it always be clear?

Chair: Yes.

Willis: I guess the answer is it depends on how clearly the Farm Environment Plan is written doesn't it. What FEPs would normally have is a range of parameters about how the farm is run, but a range of actions of things you're going to do to fix problems on a farm maybe. You'll have to fix a fence by a date or whatever would be kind of fairly typical from the ones I've seen – not necessarily here but elsewhere. If you haven't done those actions then you would be in breach.

I won't speak for Mr Peryer but I guess that's part of the training of the certification, is that they need to make sure the plans are written clearly enough that they're a definable action in the requirements that can be monitored.

Peryer: If I can just add to that. There's a requirement for a timeline within that Farm Environment Plan, a timeline of actions.

Chair: One very, very quick example: if there's a requirement to have sediment traps for instance, if the Farm Environment Plan said there needs to be sediment traps, but it didn't go into how big or how much sediment they need to contain and that sort of thing, is it going to be clear whether that permitted activity standard has been breached?

That's fine, I think you've explained that. It comes down to the wording of the Farm Environment Plan.

[03.00.00]

Willis: It does but it also in that case (and I will let Mr Peryer elaborate here) but because on many of those actions the Council office might be undertaking the work for them as part of the schemes that Mr Peryer was talking about.

I'll let you expand on that.

Peryer: A fundamental part of certified Farm Environment Plans will involve the Environment Restoration Team's support and guidance with these farmers to help them deliver these actions. We'll be working with them. It might be a regulatory approach but the non-regulatory programme is going to be critical in making sure things happen. Our engagement with the farmers and monitoring of the CFEPs is all part of that.

McGarry: Mr Willis, another mistake I think. Rule WH.R28(c) I think you might mean (f) in (c), part F.

Willis: Thank you. Did you say R.28?

McGarry: Yes.

Willis: And, you talked about (c)…

McGarry: (c) of that rule refers to part (e) of Schedule 36. I think you mean (f).

Willis: I've got my e's and f's mixed up haven't I.

McGarry: Yeah.

Willis: Thank you very much. Yes, okay.

McGarry: I'm not sure the end of the sentence is required really is it – Farm Environment Plan additional?

Willis: It's a hangover from how it was always referred to. The idea of course was that it was additional to Schedule Z. That's why it was mentioned.

McGarry: Figured it would just be part (e).

Willis: I see what you're saying. Yes.

Chair: Thanks very much. I think we are at time. We'll come back at 3.45 is that's okay Mr Ruddock. We're running fifteen minutes over. We'll have a shorter break and we'll be back with Mr Blyth.

Mr Willis have we come to the end of that section that you wanted to get to?

Willis: Thank you. You've heard enough from me. I will be handing it largely over to the technical experts.

Chair: Thank you.

[Afternoon break – 03.02.35]
[Hearing resumes – 03.22.05]

Chair: Welcome back. I think we're finally with you Mr Blyth. Thank you for your patience. Over to you.

Blyth: Thank you Commissioners.

Kia ora koutou. I am going to talk to you today about the CLM modelling. I've done a variety of evidence for Hearing Stream 3 but today is just talking about the actual model that was built.

Previously in Hearing Stream 2 I provided an overview of I guess water quality models that were developed for the whaitua processes. The CLM that we are talking about today has been specifically developed in the last few months I suppose to support the Plan Change process, recognising that Dr Greer's interpretation had utilised I guess the whaitua models and tried to interpret where the plan provisions would land without having a specific model that attempted to replicate some of those provisions.

This model is reasonably straight forward. It utilises and existing contaminant load model from Porirua and some detailed land use mapping from Te Whanganui-a-Tara. It's merged them into one big spatial map and then we have applied yields to those for metals, so zinc, copper and for sediment. The sediment component is a custom sediment model.

Everything in this is trying to link back to the previous modelling that was done for Te Awarua-o-Porirua. The sediment model is calibrated I guess to a daily sediment model which utilised about four years of data. This annual load model that's built for this, to test these provisions, is trying to use all that data, so there's some alignment between the modelling results.

In general it's a reasonably simple model. It's a general average load model. There's a number of limitations which we have outlined in Appendix A of my primary evidence in that technical memo on CLM, which is worth being aware of. For example, it's not a hydrological model, it's just a simple annual load model, but useful I guess for directional changes, relative changes between scenarios.
The baseline model represents the 2012 land use configuration, so this is aligning with what was done for Te Awarua-o-Porirua Whaitua and partially with Te Whanganui-a-Tara. Then what we have done is developed a future development state.

[03.25.05]

So that's accounted for as historical development and that's utilised, I guess, Lyn's layers of change in housing density in the last 2012-2024, the last twelve years. That's been built into the land use map.

Then we utilised the future development state which is a regional initiative in a report published in 2024 that predicted where growth would happen within the best parts of the plan change for thirty years.

One bit I want to flag is it says to 2053 and that's actually a typo, that's 2054. That report was published in 2024 and they predicted where thirty years of growth would be. That's equivalent to about 76,000 new dwellings from greenfield planned for medium density residential uplift, infill as well. That's being spread out throughout this mapped area of the plan change.

Once that sort of future development state was built in we then added in the notified provisions where possible. For example, we couldn't model things like hydraulic neutrality because it's not a hydrological model. But, just simple tests of I guess load reductions based on published literature around things like [03.26.27] bio retention devices have been mentioned, which is more applicable to Hearing Stream 4 around their removal rates of I guess copper and zinc, or say retiring highly erodible land. You might achieve a 90 percent reduction in sediment if that's planted up in natives.

Those load reductions were applied trying to align this future development scenario with the notified provisions in full effect. The idea there is to say if we are in 2054 and based on this growth that happens and these notified provisions in place, what's the potential change in sediment? I only talk about sediment from now on. Metals we talk about in HS4.

It's intending to support I guess the s.32 analysis, the complex expert panels, the previous modelling.

I am aware that it can be quite easy to rely solely on this modelling, but I recommend everyone read wider if they can, rather than just looking at the numbers in here, but these are good indications of directional trends anyway.

Dr Greer has taken the information from some of this modelling and tried to interpret how this modelling will mean, in terms of meeting the target attribute states at some of these sites.

That's sort of a land use map which underpins what this model might look like. You can see there's a high level of detail. You can get right down and it maps individual rooves and paved surfaces and applies yields. Then in the rural areas, in particular for this whaitua, it's all linked back to calibrated proportions of surficial erosion surface, land sliding and stream banks based on the three continuous sediment monitoring sites and daily sediment modelling.

Reasonably complex and hopefully the memo explains it. I can take any questions later if you want.

Moving onto the results there's a lot in these two tables, but this is showing the notified PC1 results for the TAS catchments in the table on the left, and for the Porirua Harbour in the table on the right. Primarily I would suggest just to focus on the percentage change in scenario and that's compared back to the 2012 baseline. You can see I guess some example ones to pull out. Makarā Stream,

the notified TAS is saying a 38 percent reduction I believe, and then I think Mangaroa is saying 20 percent.

So that's an example where they've I guess predicted notified provisions would get, but the big disclaimer is that it doesn't include forestry – so the forestry provisions about trying to reduce sediment out of forestry. Forestry there's currently no national literature available around reductions or modelling provisions. We possibly could have made some up as part of my other evidence where I had an attempt at what the long term losses were from forestry versus pasture, but in terms of actually modelling parameters they don't really exist.

[03.30.05]

NIWA have a bunch of studies at the moment where they're trying to publish modelling parameters about forestry through different cycles and how you could actually model that.

So, yes this PC1 model doesn't model the provisions for forestry and it doesn't model the earthworks provisions in full effect of treaded flock, or the clearance of the woody veg. Any provisions there where you'd expect better sediment gains would be additional to this. As an example, you might have twenty percent at Mangaroa and it might go up a few percent, but hard to quantify some of those.

Then on the right for Porirua Harbour it's showing in that table the notified provisions were roughly achieving fourteen percent reduction in Onepoto, 23 percent in Pāuatahanui. If I recall correctly from Hearing Stream 2 I believe the Onepoto was still needing a forty plus percent reduction in sediment based on the harbour health criteria from those experts.

Moving on we modelled the notified provisions and then considered other scenarios as requested by Mr Willis through revision of these provisions. Right now, I've only presented the provisional scenario 2, but I have been listening to the Commissioners' points throughout today and there was interest in following on from Mr Peryer's evidence about Farm Environment Plan.

Provisional Scenario One considered hypothetical losses, or gains I guess in sediment, if you applied Farm Environment Plans at all these properties that are greater than twenty hectares. We just normally said, "Okay, if you had a ten percent reduction in sediment from all those properties, fifteen, twenty, twenty-five, all the way up to forty percent. So that's an idea of if all those farms were achieving a certain percentage of reduction what it would achieve in those TAS catchments.

I guess to answer your question earlier, you would need a forty percent reduction from all those farms who had a Farm Environment Plan to achieve the same as what the notified plan change provisions were; so quite a reasonable amount of sediment to be reduced out of some of those properties to achieve similar reductions to the notified. Every farm will differ obviously depending on their practices that they're operating, their land use and as assessed by the farm environment certifiers and things on the ground.

I guess the focus in this one is the provisional scenario two, which we see as sort of a backstop likely worst-case scenario. That's basically the WRECI funding, which was presented earlier, the roughly 130 hectares of GW funded native vegetation establishment. That equates to about 1950 hectares by 2040. That's just fortuitous. It wasn't planned. It's a coincidence really, but that also essentially aligns up with retiring the top ten percentile across both whaitua, which is around the 1916 hectares.

So just be continuing that programme, you would achieve that. Then the only other thing is the fencing provisions for Makarā and Ohariu and what's required under the NRP. That was considered in the provisional scenario two. Same thing. Those tables.

What's missing in these tables is I guess it doesn't compare back to the TAS, but I can talk you through that shortly. I guess ones you could look at, as an example, Makarā Stream at Kennels under the scenarios a 22 percent reduction in sediment predicted – that's without the forestry provisions included. But, for reference, the 2012-2017 baseline visual clarity state required a 38 percent reduction to move it from the below the national bottom line in a de-attribute state to a (c). So it's not meeting that for that catchment.

Mangaroa is a seventeen percent reduction under the scenario which meets the TAS for that catchment, which was a seventeen percent reduction with a colour adjusted visual clarity lowered.

[03.35.10]

Generally, there's a few catchments. I think Wainuiomata rural streams required an eight percent reduction. You don't have this in front of you, but I've just got a working table here. That required an eight percent reduction to meet the 2012-2917 baseline. This modelling for this scenario achieves the four percent.

Te Awa Kairangi lower main stem with the Hutt River at Boulcott, that required a six percent reduction and this is achieving a five percent.

Mangaroa, I mentioned before required a seventeen percent reduction and it achieves that.

Pāuatahanui Stream required a 26 percent reduction I believe to meet the 2012-2017 baseline state and this only achieves and eight percent.

If we're fixing that period of between 2012 to 2017 as guided by the NPS throughout the plan change then a number of these sites would probably be a bit of a stretch to meet it with just doing the WRECI project on its own and [03.36.30].

Perhaps you will get further as well with the extra provisions from forestry, earthworks and all the rest. I suspect you will. But they're just harder to quantify what extra percentage that might be in terms of moving the [03.36.42] facts.

I think that's everything for now. Those are the main results. I'm happy to pause it and take questions. Thank you.

Chair: Thank you very Mr Blyth. That was very interesting.

Wratt: Can I just clarify with you exactly what Scenario 2 is?

Blyth: Scenario 2, which we have up here is the WRECI funding project, the Council funded one that Mr Peryer talked about recently. That is ongoing. Is it subsidised? Perhaps. Ongoing subsidised retirement and planting of natives equivalent to 130 hectares per year, which works out by 2040 at 1950 hectares of land. We have applied that to that top ten percentile highest land in the mapping and modelling. It worked out that they're virtually the same amount by 2040, just be coincidence.

Wratt: So that's essentially business as usual.

Blyth: Yes.

Wratt: And Scenario 1 is?

Blyth: Scenario 1 is the hypothetical. Because Mr Willis talked about it earlier there's no literature available to tell us what a Farm Environment Plan will achieve in terms of a reduction in sediment. There is nothing hard and fast where a region has rolled it out and monitored it to say this the effectiveness of a Farm Environment Plan. We've just run a selection of scenarios. It's a sensitivity analysis essentially saying that all the FEPs achieved ten percent and this is what the TAS reduction would be, all the way up to if they were achieving a forty percent reduction on every property. That was applied to stream bank, land sliding and surficial road saying all that load that we predicted off those properties was reduced by forty percent, thirty or twenty.

You can pick any one you want, and I probably can't tell you which one. You'd probably pick the middle and assume that may be a farm that might achieve a twenty percent, but it's going to be case dependent. Every property will be different. Some might have a lot of opportunities, for example to put in a big detention bund that might mitigate a large portion of their catchment in a forty or fifty hectare catchment and strip out fifty or sixty percent of the sediment, but that's site specific. Others might just be very hilly and have no option to put those in, so they might be forced to do other things – changing management practices or mitigate with revegetation options.

Wratt: Do you have a percentage that would deliver the TAS sediment?

[03.40.00]

Peryer: I suppose Mr Blyth the closest would be the forty percent is aligning with the PC1 notified in that Table 1 that Mr Willis provided you the revision today. You can see the notified in there. If you're at forty percent for the FEPs that's roughly similar to that. If you're going, "Okay the notified provisions nearly meet the TAS based on that Table 1," that's probably what you need.

Wratt: Thank you.

Chair: The provisions, the latest version that Mr Willis supports is different from the notified version. Is it feasible to provide an update based a more up-to-date set

of provisions that the officer supports, or is that work not really practicable with all the constraints?

Blyth: To clarify, do you mean the revised table he provided you this morning updating that with one of these provisions, or not?

Chair: Sorry, no. For example, the notified version of the rural provisions had the nitrogen risk assessment tool, it had some specific provisions around erosion, risk land and that sort of thing. I guess I'm just saying that now that the latest version of the provisions, those things have been moved, is it possible to get an updated CLM result?

Wratt: Is that saying not the notified TAS but the revised TAS that came out after Hearing Stream 2?

Chair: Also, the rebuttal provisions is what I am really saying.

Willis: I think if I'm understanding the question, I think essentially what Mr Blyth's Scenario 2 is, is because it's modelling the WRECI project, that Mr Peryer talked about, that is essentially going to be sharing the same amount of area, of retirement, so it is essentially that is what I am saying is the most likely proximate of what we will achieve through the improvised provisions.

Wratt: My question is still what percentage reduction would be needed to meet the rebuttal TAS?

Blyth: Can you explain what you mean by the rebuttal TAS? The visual clarity ones?

Wratt: The revised visual clarity that came out in the provisions in the rebuttal, or in fact the right of reply actually I guess from Hearing Stream 2. Is that Column C in the table?

Blyth: Yes. That hasn't been presented as a table but I have it here as a worked example in front of me. It is something that Mr Willis and I spoke about on the weekend, about could be issued to the Commissioners as well.

As an example, if you're comparing everything back to the 2012-2017 baseline revised TAS, a work-through, first at Takapu, Pāuatahanui Stream at Elmwood, based on that 2012-2017 TAS you would need a 26 percent reduction. This provisional scenario only achieves and eight percent. It undershoots by eighteen percent.

The next one, Te Awa Kairangi rural streams and rural main stems, Mangaroa at Te Marua, that requires a seventeen percent reduction with the revised TAS colour adjusted. The provisions in the scenario achieves that. It achieved the seventeen percent reduction.

Te Awa Kairangi lower main stem Hutt River at Boulcott, the provisions back to 2012-2017 required a 25 percent reduction, so quite high and this only achieves a five percent.

Wainuiomata rural streams downstream of White Bridge required an eight percent reduction and this achieves a four percent.

[03.45.00]

Parangārehu catchment streams in South West Coast rural streams, so Makarā at Kennels, that required a 38 percent reduction, and this achieves a 22 percent, so undershoots by sixteen percent.

It's worth pointing out this is based on that 2012-2107 period. Obviously, we have current monitoring data of 2019-2024. Some of those sites are now close to meeting TAS, but as an example Makarā Stream now requires a 48 percent reduction if you're using the current visual clarity data; so, it would be even harder.

It's kind of that where do you draw the line and the NPS has suggested 2012-2017 for the baseline period. So, if you choose to use current it will make it worse for some catchments.

Hopefully that helps.

Kake: Can I just ask a quick question, just with respect to the memo as provided Mr Blyth and some of the modelling. I don't know if this is coming up next hearing stream.

The reference to the future development and MDRS. I am not up-to-speed at the moment with respect to the implementation of the FDS and in particular District Councils.

Assuming that all of these MDRS numbers, and I'm looking at Table 4 on page-12, is this something that you're going to touch on in the next hearing stream? Just wondering if it's worthwhile talking about it now or later – acknowledging that you said we are talking about sediment.

Blyth: Thank you. We'll probably go into more detail, because that has relevance I suppose to, I guess the urban metal load reductions in zinc and copper and the application. You do get I guess sediment that's applied in the CLM from some of the urban land uses, but this primarily has significant implications around the change in land use that reduces zinc and copper off things like rooves and paved surfaces. I guess this infill on growth has a greater effect on the metal land use than the sediment which is primarily driven in the rural provisions and earthworks.

I can explain if you want - how it was applied generally with the FDS. I guess the one thing with the FDS strategy, it was in a time when there was spatial planning and rapid growth corridors and rapid transit and trying to align greenfield and infill, and planned infill along corridors to reduce people driving and utilising public transport. I guess that's potentially out the door now and how much that growth will align with the FDS and with the release of the NDRS which is the ability to develop from a range of areas that might not align with spatial rapid transit corridors.

Kake: I think I probably need to go through this a little bit more in detail. It might just be something that we park until next time. I'm just trying to understand I suppose the different levels of sediment coming from these particular areas and just understanding these rural land use activities versus some of the more urbanised greenfield, land filled developments. Just a brief overview of that might be helpful in the next hearing. Thank you.

[03.50.20]

Blyth: No problem. Thank you.

Chair: Mr Blyth your Table 3 in your evidence, which is on page-19, you've got there the contribution from pastural, plantation, forest and native. Then you've got a column for other. What does that include in the other column?

Blyth: To clarify, this is the sediment from pasture and forestry technical evidence Table 3. Other is all other land uses within that catchment. As an example, Horokiri Stream at Snodgrass, fourteen percent of the catchment is native, forty-one percent is pastural, thirty percent is plantation forestry; so, the other sixteen percent could include things such as urban, roads… let's just say urban and roads for now. I'm having a brain fade. Those are the other areas. Exotic vegetation is an example.

All I have done is tried in that table to highlight the proportions of pastural and plantation forestry when looking at the suspended sediment by an attribute state.

Chair: Thank you. I think we're probably at time. Thank you very much that was very useful. That takes us to Dr Greer for your final presentation for the day and then I think a bit of a wrap-up from Mr Willis.

Greer: Good afternoon. I am happy to take questions as they arise to keep things flowing and keep my brain sharp.

This presentation I just want to touch on the extent to which the notified and amended provisions achieve the notified and amended target attribute states. I just want to close off some of the technical matters raised in submissions that haven't been covered to date.

As discussed in Hearing Stream 2, I drafted two reports described throughout my evidence as Greer 2023A and B which is the pictures there. They draw on the scenario testing results from the Whaitua science programmes to describe the likely extent to which the notified TAS met the notified provisions.

What probably isn't clear from my statement of evidence today is that while the provisions were being drafted the same whaitua scenario results were analysed beforehand to determine the sorts of actions that had the best chance of achieving the target attribute states. That analysis was shared with the report authors who largely adopted those actions as the basis for the provisions. The provisions weren't drafted and then justified by the science; they were informed by the science while they were being drafted.

For example, the requirement to retire and treat certain types of [03.54.07] pastureland under the notified provisions was largely consistent with the

assumptions of the whaitua scenario which suggested that they would achieve the suspended sediment TAS and coastal objectives similarly in combination with those erosion controls.

The stock exclusion provisions in the notified plan when paired with the operative NRP rules and the stock exclusion regs at the time, were generally consistent with what the whaitua science showed would meet the specified sediment TAS and at least contribute to the E.coli TAS being met.

In the general intent of an inclusion in a TSS standard in an earthworks provision was to drive a level of sediment removal from earthwork sites. That was consistent with the assumptions of the whaitua scenario results, which was a ninety percent removal efficiency.

[03.55.05]

As I've said in my evidence, the whaitua science did not consider the management of veg clearance or commercial forestry harvesting as a mechanism to reduce sediment losses, so they were more driven by the equity arguments discussed in my evidence than the science in this way – the same reasons why Mr Blyth hasn't factored those into his modelling to date as well.

Listening to that five scenarios work Mr Blyth has now remodelled the provisions as notified and amended and that allows for an assessment of the extent to which the notified rural provisions meet the rural TAS. By that I mean the E.coli nutrient and sediment TAS for rural and mixed rural catchments.

The extent to which the notified provisions achieve the amended TAS, recommended in Ms O'Callahan's latest Appendix 2, and the extent to which the amended provisions achieve the amended TAS. Those results are shown in Tables 1 and 2 of my statement of primary evidence and Table 1 of my supplementary evidence.

They show that the notified provisions are generally consistent with the achievement of about seventy-one percent of the rural E.coli nutrient sediment TAS. However, they are unlikely to achieve fifteen percent of them and that is largely down to the difficulty of the E.coli TAS.

For the remaining thirty percent it is possible that they overshoot them somewhat and that's largely due to the… I don't want to say "unnecessary" but not being driven by the plan change improvements in the dissolved reactive phosphorous driven by reductions in sediment inputs. It's a side-effect of the sediment controls rather than something that is being sought by PC1 itself.

This is the tables for that that are in my evidence with green, showing where you're hitting the TAS right on the spot. The red is where you are undershooting and the orange is where you are overshooting. You can see there's a lot of red in the E.coli column and a lot of orange in the dissolved reactive phosphorous column.

I do need to revisit some of the numbers coming up. It looks like I may have had some of the similar veg and control issues as Mr Willis for the sediment load reductions and I will probably reissue a couple of the tables through reply.

In terms of what the notified provisions do for the amended TAS, they really don't change much. I think you get two percent more of the rural TAS being met and you get one part-FMU meeting all its TAS, but you're still seeing a general consistency with the TAS for everything else but E.coli, which isn't being met.

The same also holds true when you look at the amended provisions compared to the amended TAS.

Importantly, when the amended provisions are considered, you only see one target attribute state no longer being met and that's the suspended fine sediment target for the Te Awa Kairangi lower main stem part-FMU, and that's not surprising. That target attribute state does almost drive an improvement to natural state. So as you move further away from provisions that require significant improvements you are just going to significantly reduce your likelihood of achieving that TAS.

Do you want to talk about achievement of the TAS now before I go onto the submission stuff?

Chair: Dr Greer just the last point you made about the Te Awa Kairangi lower main stem, I'm just looking at Mr Willis' replacement table. I'm just wanting to understand why the difference between the reduction that was required for the 2012-2017 baseline and the reduction that's required now. There's quite an improvement there.

[End of recording – 04.00.00]
[NRP PC1 – HS3 Day 1 – Part 3]

Willis: …natural variability. It was in the (c) state in 2017, it's in the (b) state now. There really is no reason to expect anything has significantly changed in the catchment. That's just a focus on about how much water quality varies and you have to peg it at some time point. In terms of the mass loads coming off them, when you average it over a long period they shouldn't have changed that much over that time. The fifty year average low should be generally consistent between that time, but you do just have sediment delivered at different time points and you're going to see some pretty big swings in visual clarity.

The ones that I think maybe need to be revisited here are the Takapū part-FMU which I have put as being met, but in retrospect when you look at the 2017 baseline in Mr Blyth's work, it's suggesting that it may not be. The reason I asses that as being met is because it pretty much is now. It's at around the [00.01.13] away from its TAS. I think it's at 2.19 metres and the TAS is 2.22 metres. I believe I made an error with the Mangaroa catchment, which is the Te Awa Kairangi rural stems and rural main stems. Mr Blyth I notice that as being met, so I just need to confirm which table I have got my numbers from. But, those two will be switched effectively and the narrative is still the same.

Chair: It will be reasonable though to assume that when you factor in the other provisions in PC1 that there will be further improvements, but it's just you can't

quantify them. Don't know the extent but we're not going to be going backwards.

Willis: I'm not sure. I don't think we can quantify how much is needed in that part there, but if you look at what's not covered it's the forestry provisions mainly. We do have an uncertainty around the losses from that in the modelling in the extent to which the provisions are going to drive improvements from that activity. We're in a bit of a knowledge gap with that.

Then in terms of the other provisions that reduce the sediment, I'm not entirely sure but the whaitua modelling incorporated earthworks into that and the stormwater was also shown in that. I don't believe that the whaitua science suggested that improvement to A state was likely under the water sensitive scenario in Te Awa Kairangi either.

In my initial evidence I look at what the TAS is in relation to natural state for the lower main stem of the Hutt. It effectively allows a three percent deviation from its model natural state. Achieving that TAS consistently, I think there's strong evidence to suggest that would require all anti [02.32] sediment losses from the catchment, which is effectively what the notified provisions of PC1 attempted to do.

Regarding the technical matters raised in submissions in evidence, we had submissions that state that E.coli in the lower reaches of the Hutt River is not originating from the farming communities in the Akatarawa and Mangaroa Rivers and that's not correct. These rivers in combination contribute thirty percent of the E.coli load in the lower main stem.

Dr Basher in his evidence on behalf of Wairarapa Federated Farmers dedicates a significant amount of his evidence to the extent to which PC1 requires an improvement in natural state in visual clarity. That's not the case. For the most part the suspended fine sediment target attribute states are set at maintain, or national bottom line which theoretically the national bottom line is at twenty percent degradation from natural state, the obvious outlier being the Hutt main stem, which I do consider requires an improvement to natural state.

[00.05.18]

However, I do agree with Dr Basher that the wording in Schedule 33 and 34 implies that veg clearance and commercial forestry activities cannot increase sediment losses beyond natural levels, and that is inconsistent with most of the TAS in Tables 8.4 and 9.2, but I understand Mr Watson has recommended the deletion of those schedules, so that assuming that deletion is adopted would no longer be a problem.

Then the only other submission point to cover for rural land use was around the nitrogen loss management. There was a few submissions that appeared to suggest that nitrogen loss management is not necessary in PC1, and there isn't environmental risk with end loss in this area. There is, so allowing end losses to increase increases the risk of non-compliance with the dissolved inorganic nitrogen nutrient criteria and consequently the risk in the Periphyton biomass target attribute states not being met. So maintaining nitrogen concentrations in rivers in this area is important.

The other side of the conversation was around the extent to which small blocks need to be managed for end loss. I can't comment on that because the modelling available, especially for Te Whanganui-a-Tara isn't at the scale where we can quantify nitrogen losses from the small blocks to see if they discharge more than you would expect, or less than an extent based on their percentage contribution to catchment area.

That is all I have to say on rural stuff.

Chair: Thank you very much Dr Greer. Just before we pass over to Mr Willis, Dr Greer in your rebuttal evidence there was a sentence in paragraph 32 which to me sort of captured where my thinking is at very succinctly and it's the last sentence on page-32, where you talk about achieving the TAS for a part-FMU – you're talking about a particular part-FMU; achieving a TAS for a part-FMU relies entirely on managing land uses and discharges in those part-FMUs that flow into it.

Why I say that and why I found that helpful clarification for me at the moment, is that we are hearing that some of the justification for the provisions can't be modelled isn't entirely known. Where we can model and predict we know that there will be some improvement, there will be some shortfall, but there is still very much a need for all land uses and discharges to be managed to contribute to achieving the TAS.

It's that justification point that I am really trying to make sure I understand.

Greer: Sediment is the best example because it's kind of the attribute that's I guess the hot topic for the plan change. If you are contributing more sediment than the natural environment would have left unchanged, then there's a reasonably strong argument that if sediment losses need to reduce then you should reduce your sediment losses.

Obviously whether PC1 is the best way to go about that is not within my scope of expertise.

I've said in relation to forestry, there's evidence that they contribute more sediment than what the natural environment normally would. I do think that's justification for managing it in some way to contribute towards achieving the target attribute states, and we've got catchments which are predominantly in forest where we need to have sediment load reductions to meet the TAS for the Lower Hutt part-FMU. So it does go towards supporting that argument.

[00.10.15]

Chair: Yes, because as you will have seen from some of the evidence provided by the forestry companies, they're relying on statements in your primary evidence to say, "Oh well, science is up in the air and there's actually no justification for regulating forestry." I'm over-simplifying it but they're saying it hasn't been established that these activities need to be managed in order to support achieving the TAS.

What's your response to that?

Greer: My response is that there is an evidence base to support that the activity needs to be managed. What we don't have is an evidence base to prove that the management approach being taken will drive improvements towards the TAS or that the NES-CF will drive improvements towards the TAS. But, that's not to say that Greater Wellington can't come up with an approach to a consenting framework, which they can't through the NES, that will reduce losses by more than what you would expect under less regulation.

As long as there is an approach that is designed appropriately to reduce losses from that activity then it will be justified. But, we don't have that. Mr Blyth and I at the moment don't have a suite of actions that Greater Wellington will require through a consenting framework for forest harvesting, but we can then assess I guess the TAS, which that just hasn't been done yet. It's not to say that forestry aren't contributing sediment to the Lower Hutt.

Stevenson: Thanks Dr Greer. I just wanted to touch base and make sure I understand where things are at with regard to modelling of nitrogen losses from small block. I know you've said in your evidence it's a policy question not a technical one. I think Mr Willis has recommended deletion of those provisions. Is that the state of play currently? Probably a question for Mr Willis.

Willis: That's correct. When we started out this process, a long time ago now, there was I guess a suggestion but it was those anecdotal that there could be some nitrogen loss risk, a heightened nitrogen loss risk from these properties, partly because of they occupied the better land and therefore were more capable of being more highly stocked. Whether they were more highly stocked was something we were never able to establish to be honest.

We proceeded with that approach because it was a nitrogen loss risk and sought to get that information through that mechanism. But, for the reasons I've talked about, we decided that that's very difficult to justify, and anyway we don't have a tool that we could really rely on credibly to do that.

But, I think it is important to note, and I didn't mention it earlier, but there is a new method proposed to do some investigation. That would be the other way to get that information somewhere down the track. If it turns out we do need to do more we'll have a better information base.

Greer: Just to put a science lens over that as well, for Porirua we've got modelled nitrogen yields, but there's nothing at the property scale that there hasn't been an intersect done over. What we know now about the issues with allocating nitrogen at a property scale it wouldn't be appropriate to do that. If we were to open up the yields and start trimming them by twenty hectare blocks it probably wouldn't generate anything useful.

Blyth: I will just add that through the whaitua process we also did a number of rural engagement surveys to understand I guess block ownership. There was some feedback. I don't recall the exact numbers but there were up to a thousand responses on some of these letter drops. A number of those lifestyle block properties don't have animals. You can't just assume that they're grazing I

suppose. There was a big range of how they were utilising the land based on those responses. So without I guess assessing every small block to understand what they were holding and what they were grazing, it would be quite hard to then try and predict potential nitrate losses that would be coming off it.

[00.15.10]

McGarry: In terms of the change in the threshold from the four to the five, and I understand that would take a lot of properties out, what does that mean in terms of the sediment modelling? Presumably you took that into account – that there would be a control over the properties. What does that mean, that change, in terms of load?

Blyth: The modelling that we've currently presented didn't specifically assess that change from four to five hectares. We assessed the notified provisions as they were, treating that top ten percentile of land, which may have captured some of those properties. We assessed those revised scenarios that I've talked about today, but I haven't tried to tease out that change between the four and five hectares part of the provision updates - so I can't answer that sorry.

McGarry: Mr Willis, I'm not clear – I know it's a significant change and that it changes the number of properties captured, and that's significant itself, but I am not clear on what information we've got to what that does, and I guess that's where some of the other questions were coming from before. Some of these changes – how can we in some way measure or take into account what the difference will be from the modelling in some of these what have been termed "roll bags".

Willis: Sorry, can I just double-check here – are we talking about the change from four to five for the land use change component, or are we talking about removing the control over the four to twenty hectare small blocks as I called them?

McGarry: Both, because I see the changes that you've made to that five is obviously quite significant isn't it, in terms of the area or extent of land that would be captured by both of those. I'm just trying to understand where that leads the modelling component that Mr Blyth has done, and that it doesn't assume the sediment loss from those smaller properties as well.

Greer: Just in terms of land use changed stuff, there's assumed to be no land use change under everything that's been done to date, except that associated with retirement. We don't have an intensification component to the modelling scenarios at all. I don't even think during the whaitua scenario. Everything was environmental. There was no growth scenarios that have been done to date in terms of rural land use intensification.

So, that wouldn't factor in. The land use intensification threshold wouldn't change any of the results to date.

Willis: I was going to say something very similar, but I'm glad you did it.

The other issue that I raised with you was the removal of the four to twenty hectare blocks, but they were not required to have a Farm Environment Plan anyway, so they weren't required to do any erosion treatment. So, it shouldn't change anything in terms of the modelling and predicted outcomes.

McGarry: So, significant in terms of the number of people and the amount of land affected, but not significant in terms of any of the modelling that you've done Mr Blyth, in terms of the provisions – that's what you're telling me?

Blyth: That's right and particularly if you look at provisional Scenario 1 which is in Appendix B, that talks about the treatment area of greater than 20 hectare properties. In that scenario and primarily in provisional Scenario 2 which applied the WRECI funding to most of those large properties as well, they account for fifty percent of the pasture land, fifty-seven percent for Te Whanganui-a-Tara, eighty percent in Te Awarua-o-Porirua, across approximately 140 properties. So roughly sixty-five percent on total across the plan change is linked to properties greater than twenty hectares that are tagged as a Farm Environment Plan, and then the rest is the smaller properties that currently have no provision requirements I guess.

[00.20.00]

McGarry: So the rationale including those before was what?

Willis: The rationale for including the four to twenty hectare cohort of properties was about the nitrogen risk and that's what we were focusing on doing – that nitrogen risk assessment. As I said, it was driven by probably the overly simplistic view that higher land then potential higher stocking rates – although that was never proven to be actual, and therefore there was a potential risk there that we needed to know more about, which is why we asked to register. That was the theory.

Greer: I do understand that there is still subject to the NRP stock exclusion regulations. They are still receiving new control – just not through the FEP framework.

Willis: That's correct. The stock exclusion rules still apply to the small blocks, all blocks. In fact, sorry I will just add to that. One of the slight anomalies in here is that the stock exclusion rule probably hits the smaller blocks harder, in the sense that you will recall that the provisions allow for the Farm Environment Plan to essentially have a waiver if you're in the slopier country, if you're not on low slope. Of course if you don't have a Farm Environment Plan that opportunity is not there, and if you're below twenty hectares you won't have a Farm Environment Plan and therefore you are stuck with those stock exclusion provisions apply to all over one metre wide streams. So actually the smaller blocks in that sense are hit a bit harder, or more accurately don't have the same flexibility.

Having said that, they're also probably more concentrated on the lower slope areas, so the question is how significant that effect will be.

McGarry: Even if they chose to voluntarily have a Farm Environment Plan?

Willis: Well, that's a possibility. If they wanted to choose to have one, I suppose. The provisions don't anticipate that, or provide for it expressly, but it might be a possibility. I would have to look at the plan. I've never had the thought but it's possible.

Chair: Over to you for wrap-up of this topic thank you.

Willis: Thank you. I will try and do it without doing too much repetition because we've had a bit of me talking today.

The only other thing I was going to flash up quickly, because it is relevant to the discussion, more broadly is how consistent are we being with the WIP recommendations, the Whaitua Implementation Plans. There was a number of submissions of course that did talk about this and implored us to follow those recommendations more closely. I won't go through them at all this point in the day, but I think there's an argument to say we are very consistent with those recommendations which do focus a lot on Council providing support – I have to say particularly in Te Whanganui-a-Tara.

The WIPs didn't propose an overly regulatory approach to rural land use management. They focused on farm scale assessment and support from Council and that sort of thing.

My assessment is that we are consistent and probably now more consistent with the recommendations now put forward than we were perhaps with a notified version.

I thought I would just make that point quickly.

Overall I think from point of view there's been some useful points and comments made today. I think from a planning perspective the big thought that is occupying my brain in the background is whether we move from that dynamic assessment of catchment status to a more fixed status, and what that would look like and what the pros and cons would be. There is some pros and cons, having had a quick chat with the technical folk. So that's something we will have to come back to you on with some detail I suspect. I suspect that's something we're going to be interested in.

Just in terms of overall summary, where I'm at, there was a fundamental challenge if you like to the way PC1 was conceived from a water management concern. I don't think that can be substantiated. The recommendation is we are not planning to move from that at this point.

[00.25.10]

Having said that. I do think there was many very sound submission points made, and we have recommended a wide range of changes. Whether they make a difference – they don't appear to make a difference, as we've just heard, to overall a broad scale assessment of what this plan change will achieve relative to the notified version. Some changes here and there, but not broad scale changes.

Having said that, there are still some challenges and there will still be some TASs that aren't met, particularly in sediment as we have talked about and E.coli. But, the opportunities to do much about that – the scale of the increase in effort to achieve those is quite significant, which is the conundrum we are all facing I suspect.

Commissioners, I don't have anything more to add really. I think there's a lot of good points made today and there's a lot of food for thought. We will definitely have to come back to you. I've got a list of about fifteen or twenty points to come back to you on I suspect and we will do that over the next few days.

I'll leave it at that, thank you.

Chair: Thank you very much to the Council team – Mr Willis, Dr Geer, Mr Blyth, Mr Nation, Mr Peryer. Thank you so much for your presentations and for answering our questions. That concludes the first day for Hearing Stream 3 and we will be back tomorrow for the final day of Council presentations, moving on to the earthworks and forestry topics.

Thank you very much. We'll close with karakia.

Ruddock: *Kia whakairia te tapu*
*Kia wātea ai te ara*
*Kia turuki whakataha ai*
*Kia turuki whakataha ai*
*Haumi e. Hui e. Tāiki e!*

[End of recording 28.20]