

To be read in conjunction with  
the tabled evidence/statement



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**HEARD BEFORE JUDGE D SHEPPARD (CHAIR), MR K PRIME,  
DR J HARDING AND MRS J VERNON, MEMBERS OF THE BOARD**

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**WEDNESDAY 12 AUGUST 2009**

**HELD AT THE HERITAGE HOTEL, 35 HOBSON STREET, AUCKLAND**

**HEARING OPENED [9.36 am]**

**APPEARANCES**

Ms I Gotelli and Mr I Mayhew, Metrowater

Mr G Maskill, Mr J Hodges and Mr N Woodley, Watercare Services Ltd

Mr H Furness, NZ Fertiliser Manufacturers Research Association Inc

Mr D Le Marquand and Mr C Taylor, Oil Industry Environmental Working Group

Ms D Wilson and Mr N Collins, Beacon Pathway Ltd

Ms E Walker, Ms W John and Mr P Prescott, Friends of Oakley Creek & STEPS

*Audio file: dpm 0124*

**CHAIR:** Good morning. It's my pleasure to welcome you here this morning. I believe that you will be addressing us on the submission that's been lodged on behalf of Metrowater, is that right?

**MS GOTELLI:** Yes.

**CHAIR:** Now we don't have any expectations of formality, you can just present your submission as you choose.

**MS GOTELLI:** Thank you Your Honour, Mr Chairman, I'll give you copies of our statement, Members of the Board. My name is Ilze Gotelli, I am the senior governmental planner at Metrowater. I have with me today Ian Mayhew of Will Young Cooper. Ian has assisted in the preparation of our statement, on various aspects of our statement and advised Metrowater for a number of years on matters related to storm water and freshwater quality management. I have asked Ian here today to assist in the presentation and may direct some of the questions, should you have things that are more appropriate for him to respond to.

As you know, Metrowater owns and operates the water supply and waste water system in Auckland City and we also manage the storm water network on behalf of Auckland City Council.

Managing New Zealand's freshwater resources requires a (inaudible) and a range of ecological, environmental and economic, social and cultural values. Which is challenging, especially where resources are scarce, and often requires making difficult choices between competing values and uses. In this regard we certainly support the need for greater direction from the central government regarding the protection and management of freshwater

resources. However, in our view, the proposed National Policy Statement as currently drafted does not provide this high level guidance. The NPS is very prescriptive and focussed on administrative requirements at the regional and local levels while actually adding very little value or direction for the sustainable management of freshwater resources.

We would like to see that the NPS is amended to focus on outcomes, not just (inaudible) issues, provide more direction on national priorities and set a framework for managing freshwater resources that's robust, realistic, and relevant.

In my statement today I'd like to focus on four themes related to water quality standards: Notable values, land use development and freshwater quality and demand.

The government has signalled its desire to move to freshwater quality standards to manage freshwater resources and this is certainly reflected in the NPS. The NPS directs regional councils to determine a timetable for setting water quality standards and then set those standards to those deadlines. However, beyond that the NPS really gives little guidance as to what is meant by freshwater quality standard, nor on how they should be set. Other than the defining it in the definitions of a rural - regional, rural and freshwater quality which gives effect to the National Policy Statement.

Certainly this lack of guidance could be interpreted as providing the regional councils the flexibility to do what they see fit in their regions. But it also means that there's little direction as to the national expectations for what these water quality standards should achieve, the process for setting them, or guidance on how to resolve conflicts between uses and values. Although it's not specified, we would understand that the intent is to require ambient

based water quality standards that define the water quality that is desired for any given freshwater resource.

In principal we do support the use of water quality standards. Our main concern is to make sure that they are practical, affordable and relevant for any given freshwater resource. We are concerned that a blanket or “one size fits all” approach could be used to setting standards which could actually result in very poor environmental outcomes or require a significant level of expenditure with little environmental benefit.

Over the past eight years Metrowater and Auckland City have undertaken an extensive multi-million dollar research project to understand the nature of storm water discharges and associated adverse effects on the receiving environments. This is provided us with a very good understanding of the catchment and city-wide storm water contaminant loads, stream and estuarine water and sediment quality, efficiency, cost and effectiveness of storm water treatment and reductions at source and the potential opportunities to implement public scale storm water treatments such as ponds or wetlands in identified priority catchments.

The results of these studies have demonstrated that certain contaminants, notably zinc, and to a lesser degree, copper, are ubiquitous in the urban environments and that these loads are generally dependent on the surrounding land use. For example, zinc comes primarily from galvanised roofs and from some other building products and to a significantly lesser degree, from motor vehicle use. Industrial lands tend to contribute high zinc loads because of the extent and prevalence of galvanised roofing in industrial buildings. As a consequence, urban storm water and therefore the urban streams which receive much of the storm water contain elevated levels of zinc as well as other contaminants and these levels generally exceed recognised guidelines for the protection of aquatic ecosystems.

Our studies, and similar studies that have been done by the Auckland Regional Council indicate that the cost of applying storm water treatment to the urban areas to achieve even more levels of zinc reductions - zinc and other contaminant reductions are extremely high. For example, the ARC study in their best guess estimate of the costs of applying storm water treatment in urban areas is 5.9 billion dollars.

[9.40 am]

In addition to the costs there are significant challenges in implementing storm water treatment because of the relative inefficiency of many of the public scale treatment devices, as well as lack of land that's available to place these treatment devices in existing urban areas.

A study of the priority catchments in Auckland City identified that in fact there are very few opportunities for locating these public treatment devices and as a result indicated that there be only small reductions in the order of less than 10 percent in zinc loads in these catchments.

One of the key conclusions from this work is that in fact source control can be much more effective than in a pipe-type treatment. In this case the study predicted that far higher levels of zinc removal could be achieved simply by replacing galvanised iron roofs with more modern roof roofing products than through treatment. However, of course the replacement of building materials is a process that takes quite a long time, in fact several decades.

In summary, the studies that we've undertaken highlight that the freshwater environments within Auckland City are in fact degraded due to past and current land uses. And that there's no quick fix. As discussed, there are

significant practical difficulties and the costs with even achieving moderate reductions in contaminant load are very high.

We are concerned that these challenges and the potential costs have not been adequately recognised and considered in the development of the NPS - or, we certainly acknowledge that the cost will be assessed - the costs of applying freshwater standards will certainly be assessed as part of the plan change process, it is important to recognise the potential consequences if the requirements of the NPS is proposing, particularly where these requirements become mandatory.

Metrowater considers therefore, that if water quality standards continue to be mandatory under the NPS, that their establishment is guided by a consistent national framework to ensure that the framework - sorry, that the standards that are set are robust and relevant and this framework should be supported by appropriate policy guidance in the NPS to assist in resolving inevitable resource management conflicts.

We would see that this framework would, for example, allow standards to be set for different types of freshwater resources, their values in current or desired future uses, it would explicitly recognise difference between urban and rural freshwater resources, establish standards to be set based on desired water quality or wider environmental outcomes rather than on numeric values, be based on a freshwater resource classification system that recognises, values and current and future uses, allows the region to set specific standards for each freshwater resource and allows for the standards to be phased in focusing initially on priority freshwater resources and allow the achievement of standards over a realistic period of time.

With regards to notable values, we support the identification and the values of freshwater resources to improve the management of these resources, but

we are confused about the approach, that is the approach to notable values as stated in Policy 1. As drafted, the NPS only requires the identification of the notable values of any outstanding freshwater resource or any degraded freshwater resource. However, in our view, the values and current desire for future uses should be identified for all freshwater resource and used to establish an appropriate management - appropriate classification and associated management strategy.

We don't think that the NPS should limit attention to outstanding or degraded freshwater resources, but that regional councils should be able to establish the management priorities based on an assessment of values and uses, together with a receiving environment state and future pressures. The outcome that we seek is that notable - related to notable values that the specific policies related to setting notable values be deleted, but the process for establishing values be included in a water classification scheme for all freshwater resources.

One final point related to the topic of values. As I mentioned earlier, in our view, the NPS should provide more guidance on those values of freshwater resources that may be deemed to be of national interest and provide policy guidance, at least at a high level, for resolving conflicts between competing values or uses.

In a highly developed urban area such as Auckland for example, streams supply an essential role in (inaudible) storm water, working in tandem with the storm water network to transport storm water away from houses, roads and buildings. However, this value or use, is in direct conflict with the stream's ability to support ecological values due to the effect of high storm water flows and loss of aquatic habitat. Therefore, this raised the question of when you are establishing a freshwater quality standard for an urban stream,

what emphasis should be given to the conveyance value versus the value of the stream for the ecosystem?

With regard to land use development there are several objectives, inevitably Objectives 2 and 5, and the policies that focus on integrated land use development and water management. We fully support the need for integrated land use development. However, we find that the objectives and policies that focus on land use development are confusing in places, to absolute in others, and potentially inconsistent with the RMA in others. First the very straight forward point in Objective 2, it only mentions the need to (inaudible) infrastructure for water supply. However, the management of waste water and storm water is equally, if not more important for minimising the adverse effects of discharges. Therefore, this policy should be redrafted to include all relevant infrastructure. Another point on Objective 2 and the policies that support this objective is a question about what effective integrated management of the effects of land use development and discharges of contaminants really means. In our view, integrated management is a process, not an objective. We suggest this could be reworded to refer to integrated management of land use development in a way that minimises the adverse effects and the quality and quantity of freshwater resources. The wording of this objective in the references in Policies 1, 2 and 3 should then be redrafted accordingly.

Objective 5 talks about controlling the effects of land use development to avoid further degradation. While certainly a laudable objective, it is not practical because the level of - some level of degradation of aquatic resources is inevitable where there is intensive development. Even if that development done is done in a low impact manner. Such an objective is also not consistent with sustainable management purpose of the RMA which provides for circumstances where degradation after mitigation may be

considered acceptable if the development provides for the social and economic well being of the community.

It's also our view that the NPS is directing territorial authorities to implement district plan provisions for matters which they have no jurisdiction under the RMA. We agree with the section 32 analysis that plenty is plenty and water freshwater management has not been well integrated in the past. However we consider one of the reasons for this at least in urban areas is that the division of statutory responsibilities for controlling the use of land between regional councils and territorial authorities. We think that the best way to achieve this, to achieve integrated management, is to integrate all aspects of land use planning as a function of the territorial authorities particularly in urban areas. In that regard we certainly support the approach that has been taken in the NPS however the legal advice that we have received on this very issue is that it is inappropriate for territorial authorities to control the use of land for water quality and quantity purposes when it is a clear function of the regional councils under the RMA unless of course there is a relevant transfer of power.

This apparent contradiction between the functions under the RMA and the direction the NPS needs to be addressed. One possible option is for the NPS to direct legislative change, alternatively it could direct the regional councils to transfer relevant powers to the territorial authorities. First we note that this will no longer be an issue in Auckland due to the changes in governance arrangements but certainly it will continue to affect other regions. Therefore the outcome we seek is to direct this legislative change and redraft the Policies 2, 3, 5 accordingly.

[9.50 am]

I just want to touch on a couple of points related to freshwater quality and demand. Objective 3 seeks the progressive enhancement of a quality of freshwater resources again we certainly support this aspiration but as stated

in the objective it actually fails to recognise that in some cases a preferred management strategy maybe to maintain the existing policy water or to minimised further degradation. This objective could be reworded to say something like to maintain or where appropriate progressively enhance the water quality outcomes for the freshwater resources.

Metrowater fully supports the need to manage the demand for freshwater and provide priority for domestic uses. I'd like to highlight two points first we support Watercare submission that the NPS should refer to giving priorities to domestic and municipal supply. Municipal water suppliers such as Metrowater provide through a range of users using residential and commercial customers as well as hospitals, schools and the fire service. These are essentially uses and should also be afforded priority. Second in our view the NPS confuses the issue of resource allocation which is about who gets what with demand management which is about how the water gets used. Both are important and they should be dealt with separately rather than having the allocation for domestic sources being predicated on corporate demand management. To that end we would like to see the words provided that all appropriate demand strategies are established for such supply deleted from Policy 1 through 5.

In conclusion we certainly support the intent of the NPS to improve the management of freshwater resources. However in its present form we have to question what value it adds. While the NPS directs the implementation of a range of processes it provides real guidance on national priorities nor on how conflicts between values and users may be resolved in the process of setting water quality standards and environmental flows. In our view this is the real challenge for improving the management of New Zealand's freshwater resources.

Given this, we'd like to see an NPS that provides national guidance and balancing values and making difficult choices between competing uses.

Requires regional councils and territorial authorities to identify the key values and uses of all freshwater resources as an input into setting freshwater quality standard. Provides for the adoption of freshwater quality standards that are robust, relevant, cost effective and practical to achieve by means of a consistent national framework and aligns with statutory powers to improve integrated land use and water quality or quantity management to minimise the effects of long term land use and developments.

So Chairman and members of the Board, thank you for the opportunity to present our views with you today.

**CHAIR:** Well thank you Ms Gotelli, does Mr Mayhew going to add something further or is he just to help us with questions?

**MR MAYHEW:** To help you with questions Your Honour.

**CHAIR:** Well thank you very much we're grateful that you've come prepared for that because there may be some exchange and we'd like to proceed to that now if that suits you. I ask whether Mrs Vernon has any questions.

**MRS VERNON:** Thank you. I would like to follow through in your 2.14 on page 4 of today's presentation bullet point 2 which talks about urban and non-urban freshwater resources. And it also relates to 3.3.1 on your original submission which is on page 7. And also in your further submission there are several reference points where you talk about non-point source discharges and about the treatment of storm water and run off from non-point discharges. So my general query is and I see that you think that the NPS should recognise difference between urban and non-urban. And you've made quite an extensive plea about the costs of treatment of storm water. But I just wonder why urban streams can be seen as a conveyance for storm water and that it's extremely costly for your urban consumers to pay for upgrading that. So why can't the rural community argue the same thing about their non-point source discharges and the conveyance of their discharges into

rural streams on the same premise and that why you see there's a difference between urban and rural and how as an NPS which you say should be robust and relevant and directive overcome something like that. And why has an urban person got a greater - you shouldn't have to pay but a rural person should?

**MR MAYHEW:** Through you Mr Chairman, I think what Metrowater is saying here is not that it necessarily should be better or worse but that it is different. There are differences between urban environments and rural environments. And particularly in the management of freshwater resources the creation of large expanses of pervious surface, our roads, our roof's, buildings and issues like that bring about substantial changes in catchment hydrology flows that go down through streams, contaminants associated with those. And this in turn brings about substantial changes in the streams and water courses themselves. If you look at existing urban areas the streams they lose their meandering they become straightened either through accelerator erosion which occurs naturally in response to higher flows. Often they are physically modified through armouring rock riff raff or methods to minimise. Storm water systems are predominant in those and provide a large component of the storm water that goes down the streams. And that's hydraulic changes before we even talk about some of the water quality changes. And while current practice is certainly improving on that with the issues of low impact design to minimise changes in hydrology and issues like that, it's very difficult to avoid that sort of effect. Studies by the Auckland Regional Council and other councils suggest that where catchment imperviousness gets above about 20% then there is a very significant change and reduction in the ability of the stream to provide for habitat for sensitive species so ecosystem diversity goes down quite significantly.

In Auckland City the streams are typically have catchment imperviousness around 40% in residential areas and up to as high as 80% or even higher in areas such as the CBD although there is no long a stream in the CBD. So

what we're saying is that that's a challenge and if you want to develop urban areas then we may need to look at how we view streams and manage streams very differently. And particularly where you are dealing with the effects of existing development it's very difficult to move back to take a low impact design approach. And while that is happening in redevelopment and issues like that very much so in Auckland City it's a very, very long process, its change is gradual and some of those effects on the streams are, to a certain extent, irreversible.

[10.00 am]

So in a way we're saying there is a choice and that choice is do you develop areas that potentially have some effects on streams or not what can you realistically expect to achieve in an existing urban area for an ecosystem or are you better investing that money in streams that have not had that hydraulic impact. The Metrowater submission talks mainly about water quality but of course hydraulic impact is probably defining. And in fact if you want to look at overall environmental outcome I would postulate that that money is far better invested into rural streams, much better cost benefit, easier access than streams that go through hundreds of peoples properties and issues like that. And from an overall environmental perspective with their ecosystems in particular money would far be better off spent in rural or very urban areas, that's where the best opportunities to enhance it lie. So there are challenges, they are different challenges, we're not saying that diffuse run off in rural areas is not a challenge clearly it is I mean we know it's just different challenge and that we shouldn't necessarily put those categories those that have very different values very different uses very different pressures into the same bucket if you like.

**MRS VERNON:** My second question is on your today's submission 5.5 you talk about that you'd like to see demand management and allocation separate. And that you don't think it's appropriate for demand management for

domestic resources. But I just wonder how do you avoid perhaps where in urban areas or say a metro or municipal has - they apply for a bulk amount of water and without suitable demand management system they could actually bank water. And where you've got industry that are hooked into that system and it is - you can't separate them, I mean, you can't separate it easily anyway which is what we've been told, then how, unless you have something about demand management and have some principles set around urban demand management how can you stop some industries having advantages over others. And immediately having a system that's not fair and equitable?

**MS GOTELLI:** Perhaps I didn't quite come through as clear as I should in the statement. We strongly support having demand management strategies and it should apply to domestic sources and in fact the region Watercare together with the territorial that the regional suppliers and water supply providers are working together on developing different management strategies. Our issue in there is simply not to say that allocation of water should be predicated on having an effective management strategy it's just trying to separate those two concepts out so that they're not mixed up which is how I think they're presented currently in the NPS.

**MRS VERNON:** But that still begs the question, even resource allocation on who gets what still would need some sort of demand management because otherwise you're still going to get - unless you go to like, say, to rural, you could get the water barons anyway, so both really need - I understand separating them and that's helpful, your explanation, but even so wouldn't both need some -

**MS GOTELLI:** Absolutely. Absolutely, but I think that's what is our concern here is it doesn't - like we think that everybody should have a demand management strategy, but the way in that the policy is presented it seems to appear that it would only be for the domestic, that would need the demand management strategy.

**MS VERNON:** Okay, thank you, that's been helpful. Okay, that's helpful, I was a bit confused with that there, so thank you. Thank you Sir.

**DR HARDING:** So I've got a few questions mainly focussing on the issues you've talked about with water quality etc. On your information you've provided us today on Page 3 you've given us an example here about zinc and copper (inaudible) and you've identified that that's coming from (inaudible) from galvanised roofing. The other day we had a submission from one of the other councils that talked about the issue of trying to solve these pollutants at the source. And you talked there about replacing galvanised roofs and discouraging organisations from using those. And that might be seen to be a good strategy, deal with it at the source. And then you go on to say, "Well the problem of course is that there's no quick fix." Well, how can you offer us any suggestions about how we might resolve this then? If there's no quick fix, and you could say, "Well, the timeframes that have been suggested in this proposed document are too short, there's no way you can get a resolution." What other submitters are saying is that, "We need action now. We need to raise the bar." So, can you offer us any suggestions as to how we might deal with these two quite opposing views?

**MR MAYHEW:** I think the approach that Metrowater has taken through this is that some guidance on the setting of standards is appropriate. It's very difficult to comment on the effects of water quality standards at a very generic level because you don't actually know what they are, and what it would cost, and clearly that level of detail is yet to come. The concern that's been expressed in here is that there is a view that if you pick a number, that maybe the (inaudible) guidelines for instance, 95% protection level, or even 80% protection level, in negative area perhaps, that that would be a good outcome and we should apply that to all streams. The difficulty is then is, what's the outcome you're trying to achieve? Is that to say just different

water quality is better, or are we expecting better ecosystems, what are the actual outcomes? And as we've discussed before, we could improve the water quality through all sorts of controls, through treatment, through a variety of mechanisms and make no difference whatsoever to the ecosystems within urban streams, because of the hydraulic factors, that come into account.

It's a conflict. It is exactly one of those conflicts, and that's where I think Metrowater's asking for some guidance. Where do you tip the balance? Do you say well, "Urban streams are a problem thing and we can't do anything," or, "We accept that they are degraded and what we're looking for is some longer term improvement over time." What Metrowater is asking is for some direction that this needs to be a robust process. The dollars that are involved are enormous. And that is not saying it shouldn't happen, it's not saying that water quality standards shouldn't be imposed, but where they are, they should be done with a very clear understanding of the cost that they impose, the outcomes that they are trying to achieve, and a realistic timeframe for its achievements, given the fundamental practicalities of those issues. It's a very difficult issue. It's very difficult to say, "These streams are degraded, and there's not a lot we can do about it in the short term." It is a very difficult concept and one that Auckland City Metrowater have struggled with, to be honest, because it's not a nice answer. But the work that we've shown is that, it is going to take some time for change to occur, to improve these. It may be that urban streams are managed more for amenity purposes, than ecosystem purposes, so the focus is not on water quality from an ecosystem perspective, it's on matters of clarity, and you're looking at riparian planting, so that it's more of an amenity, rather than an ecological feature. So it's actually understanding really, what is the objective, what is the outcome, and setting a process that at least allows that debate to happen in a robust form, where there is information that serves to guide the development of standards, and appropriate timeframes for implementing. So we can't offer a

solution to deal with that. It's basically a dichotomy of choice, but what we're asking for is a very clear process that ensures that the information that enables communities to make that choice is available.

**DR HARDING:** Thank you. I guess that follows on to my next questions, which again is on your information provided today on Page 4, your 10.14, where you just talked about the standards issue, and if I have interpreted correctly, you're supporting the view that Regional Councils might come up with these standards, is that correct?

[10.10 am]

**MS GOTELLI:** Yeah, I mean we think that - what we would like to see is that there is a national framework that sets out what we're trying to achieve, gives direction on establishing outcomes, for values, uses, and then the outcomes for each freshwater policy. But of course then it would be the responsibility of the Regional Councils to actually set those for the freshwater resources within their region but based on that national framework. It's a certain way of setting - determining what outcomes you want, what you want to use a particular - what freshwater resource for, what values you want to protect, should be a choice that is made at the regional level, but then again, that needs to be within the context, within the sort of national framework that sets out the process for doing that, rather than just allowing standards to be set differently in every single region.

**DR HARDING:** But wouldn't your suggestion have exactly that potential, that each region throughout the whole country could have different standards for different uses? So there could be hundreds of standards throughout the whole country.

**MS GOTELLI:** The approach to setting standards would be consistent under a national framework. The specific standards, or environmental outcomes that are set for each freshwater body will need to be appropriate to that specific water body, based on values, and based on the uses. So certainly they could be different. The actual agreed outcomes could be different, but they are within the same framework.

**CHAIR:** Mr Prime, any questions?

**MR PRIME:** No questions.

**CHAIR:** I had the understanding that the Board's task is to look at the content of the proposed NPS, and to consider the submissions, such as Metrowater's, and then make recommendations of how the content should be changed to improve the effectiveness of the instrument. And so I thought that it would - part of that process under the First Schedule of the RMA that submitters would be stating in their submissions exactly what changes to the wording of the NPS they were asking for. And so I'm wondering whether your submission states exactly the amendments that you're asking for. Now I know that in today's presentation in 4.3 and 5.2 you've done that in two respects and thank you for that. Do we have it in the submission in respect of the other changes you're asking for?

**MS GOTELLI:** In some instances, yes, and some instances the point that we are raising - some of the points we are raising are, in our view, are more general, more fundamental I should say, and that has quite a ripple on effect in the policy. And in that way it's difficult to - unless we were to provide a completely redrafted NPS to reflect -

**CHAIR:** Some submitters have done that. But Metrowater hasn't done that.

**MS GOTELLI:** No

**CHAIR:** All right. Now in 4.6 you say that some legal advice has been received by somebody, is that advice being given to the Board, or do we know what the legal reasoning is on which it's based, or do we just have to take your word for it, that that's it, without even seeing it?

**MS GOTELLI:** We have not made that available. We could check on whether we could provide that. We'd have to consult with our legal advisors as to whether they're comfortable with us making that available, but we would certainly be happy to share that, if that were the case.

**CHAIR:** I think it's not possible for the Board to do its duty properly if it just accepts your information that that's the legal position, without bringing the Board's own minds to bear on that, and you can't do that without knowing what is the reasoning that's given rise to that conclusion.

**MS GOTELLI:** Certainly, I understand that. Thank you for pointing that out.

**CHAIR:** Now we are of course grateful to you both, and we're grateful to Metrowater for the submission, and for your presentation today, and especially for being present, and willing to take part in the exchange of questions, and answers, and we can now proceed to consider your submission, along with all of the others, in the process that we have ahead of us in the next few months. Thank you very much for attending.

**MS GOTELLI:** Thank you.

**CHAIR:** Good morning Mr Maskill. It's our pleasure to see you here, and we're grateful for Watercare's submission, and we now are wanting to give you the opportunity in whatever way suits you, and no formality is required, to present in support of the submission. And perhaps you'd like to start by introducing your colleagues.

**MR MASKILL:** Thank you Sir. I have with me Jim Hodges who's the Chief Engineer with Watercare.

**CHAIR:** I think we've met before too.

**MR HODGES:** We have yes, last June.

**MR MASKILL:** And Mr Nick Woodley he's an Environmental Planner also with Watercare. And he specialises in Freshwater Management and has been involved in Variation 6 submissions on the Waikato Council Regional Plan so he's had quite some experience in that, that process at present.

**MR HODGES:** And I have copies here of a presentation of - I'll hand out. Do you have our submissions that we -?

**CHAIR:** We do have your submission. We've all read it. We have it in front of us.

**MR MASKILL:** Sir we have 27 slides to present. Some of them are by way of photographic examples so it should take us around half an hour to get through that and we'll welcome questions at any stage of the proceedings.

**CHAIR:** Well thank you. There may be some that we'll feel are so topical that we'll interrupt to ask but apart from that we've usually saved the questions until you've completed your presentation for obvious reasons.

[10.20 am]

**MR MASKILL:** Thank you. Right well, we'll just start by just a brief piece of information about Watercare. Watercare's a council organisation under section 6 of the Local Government Act 2002. And we're owned by the territorial authorities of Auckland with the exception of the Franklin District Council.

Watercare's functions are set out under section 707zzzs of the 1974 Local Government Act and pursuant to that there's a statutory requirement for us whereby we must manage our business efficiently with a view to maintaining prices for water and wastewater services at the minimum levels consistent with the effective conduct of that business and the maintenance of the long term integrity of it's assets. So when we look at legislation including policy statements what we find here is that there is somewhat of a tension at times between giving effect to, to that statement and to our supplying sound environmental practices.

We're acutely aware of our responsibilities there but, but there is a tension and a reality check which we think will become more apparent as we proceed with our presentation.

**DR HARDING:** Sorry, can I just ask a question there, when you talk about assets are you talking about infrastructure or are you talking about the waterways? What are assets in this context?

**MR MASKILL:** Basically it's our infrastructure. Right so this next set of slides we're just going to be showing pretty quickly the services that we're involved in providing. And the first one is our bulk water supply services. Watercare is the bulk water supplier for the Auckland region. And we provide 374,000 cubic metres of water to 1.2 million people and in addition to businesses per

day. The principal infrastructure includes five dams in the Waitakere Ranges and they produce 25 percent of Auckland's water supply. Five dams in the Hunua Ranges which provide 60 percent of the regions supply. The Waikato River intake, ten percent. And the Onehunga Aquifer, it's around somewhat less than five percent.

We have five treatment plants situated at Waitakere, Huia, Ardmore, Onehunga, and we've got a small treatment plant out at Little Huia.

With respect to our dams we release compensation flows to maintain stream ecology and the Waikato River intake is located at the lower end of the Waikato River.

Auckland's water demand averages 180 cubic metres per person per day. Which is fairly low by some international standards. 60 percent of that water is used for domestic household purposes. 25 percent is used by industry. And three percent goes to agriculture. And you'll see the balance there is accounted for by leakage and metre inaccuracies.

This is just a photo of the Waikato Water Treatment Plant and you'll see in the foreground there the Waikato River. We now run in-takers in this area here and we pump up and treat at the treatment plant and then pipe that through to Auckland.

This is the future preferred supply source for Auckland. We'll come back to that later on.

Bulk waste water. Watercare treats most of Auckland's waste water at its Mangere Waste Water Treatment Plant. This plant was constructed in the late 1990's so it applies very state of the art technology. What we do is we extract most of the solids and we finely treat the water through a

UV treatment process before it's discharged to the Manukau Harbour. We've also got a large network of bulk pipes and pump stations which receives waste water from the local network for transfer to this plant.

Now this next set of slides provides an example of the interrelationship between waste water, storm water, and a degraded urban stream named Meola Creek. So we're, we're just setting the scene here in terms of the urban situation that we need to deal with. Meola Creek is situated in Auckland City in Mount Albert. And you can see the Saint Luke's Shopping Centre here. And the Mount Albert Grammar School is located in this area here. The stream is actually a little bit difficult to actually see on this but what happens is you've got a pipe system up until this point here and then that pipe system discharges into the creek which runs through here and then it goes back into a pipe system. So it's heavily piped this, this stream.

**DR HARDING:** Where does the pipe come from?

**MR MASKILL:** The pipe comes from a catchment further up in the Mount Albert area. So this is the outlet from the pipe going into the creek. And you can see there that what Watercare and Auckland City have been involved with because during high flows the stream actually breaks the bank of - it breaks its banks and flows out into what is now a reserve on this side. And you have Grammar on the other side. And so what we've done is we've provided a boardwalk along here as a form of mitigation. Because this is a combined system and there is waste water and storm water which does break the banks during high storm flows.

Now what we're showing in this slide is an overflow which is about three quarters of the way down the creek. And what you have further back up what we call the spillway or the overflow structure is a large pipe which is owned by Watercare and which combines, so this is the combined system,

both storm water and waste water. And during moderate to high storm events the capacity of the pipe is exceeded and so as to prevent the combined storm water and waste water flowing out in other parts of the area by popping manholes etc, there is a controlled system established by way of this spillway. So the combined system flows down here. And you'll see on the next slide that it flows - this is the end of the spillway here coming down and the creek, Meola Creek runs through there. And so it joins the creek at that point.

And this is further down the creek where you can see that it is planted with riparian planting and is used further down for recreational purposes.

[10.30 am]

So following on from that overview of services and infrastructure this next set of slides provides an overview of the future water resource issues for the region. Starting first with the future water sources to provide for Auckland's growth. We're looking at that new sources could be required by 2026. And that's dependant in large measure on the effectiveness of the water demand management that we're establishing. And Mr Hodges will talk about that further when he introduces the Free Water strategy to you.

The Waikato River has been identified as the third option after we've looked at a considerable number of alternatives. And we've also looked at some other options and those are under consideration in terms of improving security of supply and sustainability.

And these next couple of slides just provide some examples of this. Now this next slide is a potential Riverhead dam site. The site is actually owned by Watercare and it's situated north of Kumeu, immediately north of Kumeu. And the plan would be to actually provide a dam and a lake on this land and

take water from - there's several local streams in the vicinity so it would be an off stream take. And we'd take that water during periods of high flow. And that's one of the streams, the Waikaka Stream at Riverhead. That's showing it at low flow. We took that photograph in the summer. But you can see on the water gauge there that the flows are much, much higher than shown.

This next slide shows a further potential site. This is in the Hunua Ranges. And it's below the current Maungatapere dam. So there's also a potential to establish a dam and a lake in this area. It's within the Auckland Regional Parkland at present and it's designated in the Franklin District plan but it isn't identified in the Air, Land and Water plan as yet as a water catchment area. Now then the future waste water issues we've identified these here, the waste water discharge is to freshwater resources are caused by storm water infiltration pipes and gulley traps. So there's quite a lot of storm water which is piped off roof's etc, illegally into the wastewater system. Overflows which we've just had a look at in terms of the Meola Creek situation from the combined system, and ageing assets.

Now all of those matters are going to cost a very substantial amount of money and our estimate, to upgrade, and our estimate is between 3 to 4 billion dollars for the trunk system alone and you see that we've identified a period of through 2100 in order to achieve all of the results that we'd need there. In association there are other issues and if we're going to achieve real results in terms of the waste water side of things we would also need to deal with storm water and many contaminants come from roads and certain building materials roofing in particular. The sediment discharges and easy transmission of weeds, much of the sediment discharge comes from just small lot development. There's damage to streams due to large storm water volumes and generally in Auckland anyway a relatively uncoordinated responsibility for stream management and inconsistency of approaches by the regulators.

So having identified those we're now looking at some of the sustainable management initiatives that we have programmed and Mr Hodges is our expert in this area so he'll just take us through briefly, the Free Water strategies which we've handed out.

**CHAIR:** Thank you.

**MR HODGES:** Thank you very much Mr Chairman and thanks for the opportunity to be here I really appreciate that. I'd just very quickly like to refer you to part B of the Free Water strategic plan on page 7 and this is a project that I've worked on personally for the last five years. It's been involving all of the councils and local operators in the Auckland region and it's been one of the most fantastic projects you could ever wish to work on. Because we've seen a movement from disintegrated and local parochial views starting to come together in a regional strategy. And we worked without a National Policy Statement in isolation and it's actually quite nice to see that, I believe, what's in this document reflects the direction of the National Policy Statement. And so it's very pleasing to see that maybe we've got some of it right.

If you look at page 8 our starting point was working in partnership with Māori now that's obviously something that's very important in a National Policy Statement. We had involvement from different Māori through the project and it was a major influencing factor in a number of our directions. And if you look on page 9, the Free Water providers must ensure the six photographs down the bottom protect our health and environment, deliver services sustainability, maximise efficiency through integrated delivery of Free Waters, plan for the effects of climate change, maximise use of existing assets and ensure flexibility to meet changing future needs. And a focus in the bottom paragraph there on balancing social cultural and environmental and economic considerations. For a civil engineer to be promoting this kind

of thing was seen as something different for most people and my reputation I'm not sure whether it's been enhanced or totally destroyed.

The next couple of pages just refer to some of the issues that we have to deal with but if we then go on to page 13 one of the things we did look at very strongly is towards sustainability and what we tried to do is keep our feet on the ground in all of this because from the questions before you were talking about the need for urgency in addressing some of these things. I think we're looking at a 50 year programme and I think we need to start we need to take the right steps and we don't need to panic.

And one of the issues I'd just like to comment on, if it's okay at this stage, is the issue of contaminants from roofs and various things like that. As part of this project and some work I did for North Shore City we looked at the alternatives of managing contaminants by controlling source and management of contaminants by treatment. First of all I don't think treatment is realistically practical or affordable and when we took a 50 year view you achieve exactly the same outcome in terms of environmental performance at a cost of 3 billion dollars over a 50 year period using controls of source. Compared to 11 billion dollars if you go down the treatment route so to me it's an absolute no brainer, let's get the policy in place to make this happen. And I think the other thing we need to be very careful about is that people are saying we've got to control copper and zinc which I agree with but you can spend your 11 billion dollars on treatment and find that it's actually other things that are affecting the environment. Things like sediment, they can actually swamp an environment and kill it. Things like new animals coming into the area from overseas and pacific oyster is a classic example of taking over from the local oysters and there are many examples of things like this. There are something like 80 thousand new emerging contaminants from personal products, pharmaceuticals and these kinds of things. None of which we fully understand at this stage but they are probably all contributing

to certain types of environmental effects so let's take a prudent sensible approach and I think we'll get there in the end.

[10.40 am]

So my opinion based on quite a lot of work on this is let's just take sensible steps and don't rush into anything that we may actually regret and we certainly don't need to be spending 11 billion dollars to achieve something.

So if you then go on to page 15 of this document we focus on the environment we want to protect and we do have an incredibly beautiful environment in Auckland and just about everybody I know wants to protect that so that was a major focus of the plan. And then on the next page on page 16 we go into the uses of the environment that we value so it comes back to what values do we put on our environment which is another theme of the National Policy Statement. And through this whole process we have really reached agreement on an awful lot of things around the region there was considerable controversy when we talked about using the Rosedale Treatment Plant as a second waste water treatment plant for example. And I actually got consents for that project and then moved to Watercare and so my personal conflict between the two organisations was challenging at times but we now have agreement that that's the right way to go. As part of the programme we promoted a 15% reduction target in water use by the year 2025 compared to 2004 figures again I was totally rubbished for my lack of reality in that. Now I see all of the local councils in their future planning are talking about 14% or 15% so we are getting this consistency. It is incredibly pleasing to see the region working together and it's incredibly pleasing to see that the directions being promoted nationally are what we're trying to achieve locally. I can spend hours talking about this Mr Chairman but I'll leave it there.

Actually there is one other thing I would like to share with you is that we've taken it from here and we're working with the ARC, the Auckland Transition

Agency and all of the other regional planners on a Free Waters policy document. The focus is on things - on four areas and they are regionally significant infrastructure because we find we're required to provide infrastructure but prevented from doing so by the various statutory processes but we (inaudible). Water demand management, water sensitive urban design and storm water management. And we actually managed to reach agreement with all of the councils and the ARC officers within eight weeks on some very important policy directions. And we have now taken it a step further and we're working with ATA to try and provide a framework for the new Auckland Council to look after for the we'll hopefully assist in the delivery of affected and fishing in Free Water services. I'm very happy to leave copies for the Board of inquiry if that would be helpful.

**CHAIR:** Yes thank you.

**MR HODGES:** There's a practical example of how what you're trying to achieve through this National Policy Statement can actually be given effect to.

**CHAIR:** Well thank you.

**MR MASKILL:** Right, so I think Jim's covered slide 19 and 20 so - sorry, 19 so we'll proceed to slide number 20. And - sorry, have I got that? No, slide number 19, sorry.

Watercare's purpose and needs are relevant to the proposed National Policy Statement we've identified our purpose as a council organisation is to supply water and dispose of waste water in a way that provides for people and communities social and economic well being and for the health and safety. And just taking that to the next step the key outcomes that we're seeking I think can be summarised fairly basically as our ability to supply water and dispose of waste water. And a recognition that the existing waste water system presents significant technical and financial challenges which will take time to resolve and that's just reiterating really what Mr Hodges has just

indicated. And that we also need to deal with storm water issues if we're going to be effective in an overall environmental outcome.

So this next section deals with our suggested amendments to the proposed National Policy Statement and I'd like to start this part by just saying that Watercare is generally supportive of the proposed National Policy Statement. We feel the policy statement identifies the key freshwater management matters to be addressed, at least in the Auckland region, in its policy statements and regional and district plans. In a way that provides direction and guidance at an appropriate policy level but leaves sufficient flexibility the details to be worked out at the regional and district levels. So we feel that there's quite a good balance there between direction and flexibility. Some of the amendments that we're going to suggest throughout this section maybe considered to be too detailed for inclusion in the policy statement. But we've put them forward for consideration for the purpose of identifying our particular concerns, so we'll just start to work those through now.

We strongly support this objective as we consider it will assist Watercare in providing the services that has been established to secure for the Auckland region.

Objective number 2, insuring integrated management of effects on freshwater. We suggest the addition of we've underlined the additions. The addition of potable water and the infrastructure associated with waste water as both are critical to public health. And to also establish that point and non-point source discharges are to be covered with respect to the effects of land use development point of clarification I think.

Objective 3, which is improving the quality of freshwater. We're suggesting that where freshwater resources are appropriate for swimming they should be specifically identified

In Objective 5, addressing freshwater degradation. We're suggesting that the objective could be enhanced by referring to freshwater resources having notable values. This introduces prioritisation for available resources to deal with degradation.

And in Objective 6, managing demand for freshwater. We suggest the objective could be enhanced by direct reference to domestic and municipal supply, so as to affirm priority for this category of need.

Policies as to Regional Policy Statement. Policy 1(h), we're suggesting that we could add, "In ways and rates which are appropriate to the existing and future needs of communities," so as to signal a recognition that the cost of remedial works is very substantial, and will take time to implement.

Policy 1.1.2, we're suggesting that the clauses could be broadened to cover the priority of supply to include, "General responsibilities required of municipal water supply authorities."

And in Policy 1(j).1 - we're suggesting that we provide for potable water, and infrastructure associated with waste water, so that then would be, "Potable water for the collection, and treatment and disposal of waste water."

[10.50 am]

In Policy 2(c).3(a), we suggest that the clause, "Provide for circumstances where it may not be appropriate to include conditions for the protection against degradation of freshwater resources." And the example of Meola Creek we gave may be a case in point there, or alternatively it may be appropriate to mitigate, rather than protect.

And in Policy 5(c), we suggest the addition of wastewater collection to the infrastructure to be provided, and that account be taken of regional and interregional needs, as this is relevant to Auckland's future water supply being obtained from the Waikato region.

And then finally the definition of notable values, we suggest that notable value could include a freshwater resource value as a source for domestic and municipal supply. So added the value there as a source for domestic and municipal supply.

That, Sir, concludes our presentation.

**CHAIR:** The Board's always helped when people come and present in a constructive way, and that's what Watercare Services is doing by this submission, it's constructive, and it's a great help to us. And it's based on your experience, in facing the challenges that you do, and that's important to us as well. May we start with one, or two questions?

**MR MASKILL:** Certainly

**MS VERNON:** I'll ask if - I know Mr Maskill was here yesterday, but I want to ask just a couple of questions that I've asked other submitters about Objective 2, and the term "land use development" and would value your opinion on - and I notice you've got it in - as it is currently printed. But what if - some submitters have suggested that "land use and development" would be a better term than "land use development." Because some submitters do want, or are asking for some guidance about existing activities, and really that current term is really more about the future. And so they've made - there has been a suggestion of "land use and development" and I wondered how that would sit with Watercare.

**MR MASKILL:** Yes, I certainly listened to that with interest yesterday, and had time to give that some consideration. And I agree that the insertion of “and” would be appropriate.

**MS VERNON:** Equally, would Watercare have any objection to the word “integrated catchment management” being in Objective 2?

**MR HODGES:** Definitely not.

**MS VERNON:** Thank you. Just thank you for your information today, it has been really helpful. I have got a question from your original submission, I just wonder, you talk about your Auckland Water Management Plan in 3.6, and I just wonder how it’s all going, because we have had some submitters that have suggested, and Ngai Tahu was one of them yesterday, that in an NPS don’t give so much direction that detail, like, if people want to collect rain water or whatever, or for particular uses grey water for washing machines, or whatever, that that shouldn’t be excluded for something like that. Would Watercare have any objection to those sort of sentiments?

**MR HODGES:** I think the key thing is, we don’t quite know how we’re going to achieve the water demand management target at this stage. It may seem a silly thing to be saying, but the reality is, we have to change peoples’ way of thinking. Water in New Zealand, as you’ll all be aware is seen as a right, it should be free, and we are in a totally different situation to Australia for example. We’re working with people like Fisher and Paykel, and what we’re finding is that while they are producing these wonderful machines that will reduce water use, you have to press up to something like fifteen buttons before you get to the point, and people get as far as the first one, and they still use the maximum quantity of water, so we have a long way to go. Rain water tanks, we’re keen to explore their use. We have a programme underway to look at them in Auckland, but in reality, they are probably going

to cost five times as much as having water from the municipal supply. Leak management, there's all sorts of things we're looking at, but we can't give you the definite answers now, so please provide us with the opportunity to use whatever way - enable us to meet that overall target.

**MS VERNON:** And I guess that goes with the statement that Mr Maskill made, I think, is about having some direction and guidance, but flexibility for details to be worked out at least on district level, so, I did note that comment.

Metrowater isn't the only person who has made - or only submitter who has made this thing about having rural, urban distinction for non-point discharges, and I just note in your submission, you haven't identified that at all. And in fact you are quite concerned about non-point discharges, and I can understand that, because for example, taking water out of Waikato River, more contaminant, the higher the cost for the treatment, so I can understand where Watercare is coming from. And so I just wondered whether you see any real need of having that distinction in a National Policy Statement, that in actual fact is there such a difference - and when I look at the work you've done with Meola Creek, and there are other city councils that are day lighting, or trying to do something with storm water, is there really any need to have a distinction between urban, and rural?

**MR HODGES:** Mr Chairman I can probably answer that, because again, this has been a major part of my life for the last ten years. I also manage the North Shore Network Consent Processes, where we prepared integrated catchment management plans for the city. And stream management there was an important community issue. And they are looking at how they can improve stream quality. There are definitely vast differences between what you can achieve in an urban area, and a rural area. And the issue of swimmability does concern me, because in urban streams, my experience is that there would be few, if any streams that would come close to swimmable

quality at the present time. And I don't think that's going to change in the foreseeable future. You have birds, animals, wastewater overflows, storm water generally, and so you are going to have extreme difficulty getting anywhere close. So to that extent I think there is a difference. I'm not quite sure quite how far you need to go in the National Policy Statement. I'd be happy to come back with some thoughts, if that would be helpful.

The challenges I think are to identify the values of the streams. And that's what we did at North Shore. In starting our whole process, we looked at both freshwater and marine water values, and that drove the whole programme, and I think that is the only way you're going to get some sensible outcomes. And in some cases we had high ecological values, in others it was cultural values, in others it was amenity values. So, very, very similar to - again quite delighted that we were able to second guess the drafters in this document but it's basically common sense.

I haven't really helped you, but there are differences, and I think in some cases, it is easier to look at the rural streams, and I guess my plea is that, recognise the limitations of what we can do with urban streams. I don't quite share the views of Metrowater that it is not possible. I'm more optimistic that things can be done, because I've seen what community initiatives on North Shore have achieved, they really are quite spectacular. It's good.

**MS VERNON:** So in other words, you are saying things can be done, but the timeframes need to be realistic, and I think that's come right through with Watercare's other suggestions, or comments about other issues. Thank you.

**CHAIR:** Yes, well it's time for us to take a break, and we'd like to impose on you further, if you wouldn't mind, if you're able to stay, because there may be one, or two further things we'd like to discuss with you after that.

To be read in conjunction with  
the tabled evidence/statement

**ADJOURNED [11.00 am]**

Audio file: dpm 0125

**RESUMED [11.21 am]**

**DR HARDING:** Thank you very much for your presentation and thank you for a copy of “Free Waters”, I just wanted to sort of follow up a little bit from the discussion about that where you were talking about, you know, not panicking as far as improvements in water quality and that sort of thing, obviously within the draft NPS we’re looking for ways in which we can alter the wording to sort of get across these ideas and yesterday we received a presentation which talked about sort of a staged milestone approach to improvements. Am I correct in saying that’s sort of really where you’re coming from?

**MR HODGES:** Very definitely so and just to give you an example of that, the current air, land and water plan sets a target of two wet weather overflows a year as the allowable limit at which you’re – you have an easier path through the consent process. The implications of that compared to six times a year are one billion dollars in round terms for the Auckland Region and therefore, what we’re looking to suggest is that we set an initial target of six within a certain time and then a longer term target on two. So the staged approach is exactly in line with where we (inaudible). I think the critical thing is the land use planning framework and that is not good at the present time and the way it’s managed is not good and I’m really hopeful that with the new Auckland Council, it doesn’t apply to the rest of the country, that there will be real opportunities to get something quite special if people have got the courage to actually make it happen.

**DR HARDING:** In your original submission on page 13 you referred to making some modifications to Objective 3, which is the water quality one. And I guess it’s not necessarily apparent what the authors of the proposed statement meant when they were getting at the swimmable part. Some

submitters have suggested that this is basically trying to signal some way of raising the bar and trying to get nationally an improvement in water quality conditions. And swimmable was just - you know, might have been just one possible way in which that may be defined. Your suggestion of adding that as a notable value sort of changes the status quo dramatically or has the potential to change, because then all of a sudden we're talking about potentially a relatively small subset of the waterways which might fall under this sort of higher standard. And I guess where I'm going with this is I'm wondering what your view is on having some sort of minimum standard that applies nationwide, maybe not swimmable, but something else.

**MR HODGES:** I guess I always come from practicality, got to have a realistic chance of making it happen at some stage in the future and in the urban environment I see no opportunity for streams to be swimmable and that presents its own challenges. I think it would need someone to sit down and think very carefully what that minimum standard was, because in the rural community you've got animal discharges that effect swimmability and I think we need to look at the costs and benefits before we can actually go too far. And one of the difficulties I have with some of these policy documents is that things are put in without any consideration of all four of the well-beings, it's only environmental or social or cultural without economic and I don't have a problem with it as long as it's properly researched and properly thought through. But I would have real problems with swimmable.

**DR HARDING:** I guess one of the other sort of vexing questions that we have is the issue of timeframes and you mentioned that a little bit in some of the specific policies. I guess in your "Free Waters" you're talking about the figure of 2,100 there. I mean a lot of our submitters are saying (inaudible), you know, they want action now, or significant changes now, or at least they want some obvious way in which regional councils and other organisations are

made to change and made to agree what (inaudible). Can you offer any advice or suggestion (inaudible)?

**MR HODGES:** I could only comment on the Auckland situation in any detail, because that's where I've focused my attention for the last 10 to 15 years, but I think it may be helpful for the Board to understand some of the issues we're dealing with. That overflow that we showed on the slide there, that occurs around 100 times a year. We discharge something like 400,000 cubic metres of waste water a year from that one overflow alone. There are something like 6 to 800 overflow locations discharging something like 4 million cubic metres of untreated waste water a year into the environment, over very large parts of Auckland. We have a programme to mitigate that and part of that is a new central interceptor at a cost of 1 billion dollars, and in terms public affordability we don't expect to have that in place until 2025 for stage 1. The storm water issues are even more challenging and so I can't offer you any hope of early solutions. All I can say is that from the point of view of someone who's worked in this field extensively and tried to find ways of making it happen quickly, there aren't any. We have to take the first steps; take them as quickly as we can and in my view that is land use policy rather than racing into expensive infrastructure solutions on storm water for example.

**CHAIR:** Still on the same subject, but it also is wrapped up with your costs and benefits reminder, does it help if you're going to have a stage programme if it's all very public and transparent and that it is a programme, so that you can say well we're working on stage 1 at the moment, but that's to be completed in 2018, or whenever it is, and this is how we can measure whether we've completed stage 1 by then" and then after that is stage 2 and after that is stage 3 and by then we really think we will have achieved the objective. Does it help, do you think, to have it publically measurable so that progress can be seen to be – there's always the concern by some sections of the

community, they seem to have some reason for it, that there are some parts of the country where national policies are not really treated as serious and it's easy to think of good excuses why nothing should be done or sometimes they're in denial about whether it should be done anyway, even if they could avoid it.

**MR HODGES:** Yes, I'd agree with that. What I've found is that the bottom line comes down to trust between the council or the developer and the community and I've been through many programmes on very controversial projects, land fills, waster water treatment plants, the America's Cup development, all those kind of things, where once you build the trust and people are going down the same path it's actually fine. And you do need some way of measuring it, certainly. In some cases it's quite challenging to decide what the measure will be. Because our philosophy working with the ARC on future standards is that there should be no deterioration from current levels until we can get things fixed, but the reality is growth will continue to occur and therefore some things will get worse before they get better and that makes the measurement difficult on a global scale. I think you've got to have some kind of measurement, but you've got to bring the community along with you as well and I'm a very very strong believer in open public participation/consultation and you get some superb outcomes, so you've got to have that and you've got to have some method of measurement, but bottom line you've got to have trust.

[11.31 am]

**CHAIR:** Thank you. Coming just to a small point and perhaps Mr Maskill can help in with this one, page 24, where you speak about the qualifications to the support and the amendments that you'd like to see and it's Policy 1 i (ii), does this amendment, that is to say the second section that's underlined in the parenthesis, does that go further than the original submission?

**MR MASKILL:** Yes.

**CHAIR:** That's a refinement is it?

**MR MASKILL:** It does sir. It is a refinement which has really come out of further work that has been done by Hamilton City Council and we had performed a combined group to make submissions to Variation 6 and included in that group was Hamilton, Waipa and Waikato District Council and Taupo, and Hamilton have been the first of the block, if you like, to actually test in terms of applying for their water rights and what happened there was it became apparent that what we'd originally suggested in terms of Variation 6 and which we had put in our original submission, wasn't quite what was needed in terms of work-ability, so we've been talking with Hamilton City – we're keeping in touch because the appeal process we're involved with still as a group, and so this is a further refinement based on some practical experience.

**CHAIR:** Well, Water Care Services is able to speak with credibility to the Board on these topics. As a young man I remember when all of the sewerage from Auckland was discharged in Okahu Bay and then as a young lawyer I was involved in the Commission of Inquiry into the Mangere works when they were first set up and there were a lot of difficulties with (inaudible). More recently I've been involved in signing off something for the new plant which is obviously functioning much better and has got much more for the future ahead of it and so it's quite clear to me that when it's Water Care Services that speaks, they have the ability to speak with an experience that the public can see of continued staged developments and improvements, so thank you very much for your submission and thank you for coming to present and we found the slide very helpful and interesting.

To be read in conjunction with  
the tabled evidence/statement

**MR HODGES:** Thank you for the opportunity.

**CHAIR:** Good morning and welcome.

**MR FURNESS:** Good morning Mr Chairman.

**CHAIR:** Thank you very much for coming. You are Mr Furness are you?

**MR FURNESS:** Yep.

**CHAIR:** And did I say that correctly?

**MR FURNESS:** Yep.

**CHAIR:** Thank you. Well, we have the Association's submission, which we've looked at and we'd like you to feel comfortable about presenting what it is you want to say in support of it without any particular formality, just as you would like to do it.

**MR FURNESS:** Thank you Mr Chairman. Well as you said, I'm Hilton Furness, technical director of the New Zealand Fertiliser Manufacturers Research Association. The aim of this presentation is not to go through our submission but just to perhaps expand on it and some of the suggestions and requested changes and relate to the activities of the fertiliser industry.

Our Association has two member companies, Ballance Agri-nutrients and Ravensdown Fertiliser Cooperative. Both farmer cooperatives with about 45,000 shareholder members. The two companies between them supply probably over 95 percent of all the fertilisers used in New Zealand, so they really dominant the market place. Between them they also employ about 120 trained field staff who provide fertiliser recommendations and nutrient management advice to shareholders, to the farmer shareholders.

In undertaking these activities, the Overseer Nutrient Budgets Model is used, and that's used to prepare nutrient budgets and nutrient management plans for the farmers. When producing nutrient management plans, it is possible using Overseer to evaluate different on-farm scenarios associated with nutrient use. For example, this can be done from a perspective of evaluating which on-farm management options are required to meet water quality guidelines or specific targets. Alternatively, the modelling approach can be used to evaluate what impacts water quality, or what impacts meeting those water quality guidelines or targets will have on farm management practises and long term viability, so it's a very useful tool.

Overseer can also be linked to other models, although it's an on-farm model it can be linked for example to the Clues Model which is a MAF owned catchment model, so it can be incorporated into a catchment approach. It can also be incorporated into models such as Farmix (ph) looking at more detail on the whole farm and particular the economics of the farm system. These tools and approaches can be used to support some of the changes we've alluded to in our submission and I'd just like to perhaps give a bit more background and some of the ideas relating to two of them.

The concept of catchment based management we feel could be expanded and incorporated into Objective 2. The catchment is recognised as the basic unit of water management and the change could be achieved by inserting the word "catchment" between integrated and management. Integrated catchment management should not simply promote integration of infrastructure and regulations, it should also bring about integration of user requirements, as well as any expectations in terms of water quality. It is felt that this aspect could be strengthened in a National Policy Statement, so in reading it we felt there was a lot of emphasis on integrating the infrastructure, the policy issues, but in terms of integrating the different requirements of

expectations of user groups in the catchment could do with some strengthening.

The current situation, if we look at what is happening currently, in terms of water quality and the regulatory system, this often results in an adversarial confrontational approach with some user groups feeling that requirements, or the demands of others users are being imposed on them regardless of consequences or of the available means to achieve those outcomes.

This situation may have resulted in non-statutory measures being adopted by some groups, often for the wrong reason. For example, groups may adopt non-statutory measures to get the regulators off our backs, as opposed to actually addressing some of the water quality issues. Obviously they don't, in those circumstances, those non-regulatory approaches don't necessarily – don't work full stop.

[11.41 am]

An integrated catchment approach incorporating different user groups, would also allow for the formation of community based catchment groups. These groups would be in a position to present their own water quality requirements, and understand the needs of others, and the impacts of their activities on the requirements of others in the catchment. This can provide for a consensus approach to water quality issues, which takes cognisance of requirements and limitations of all the users in the catchment. This approach would also encourage flexibility and innovation in formulating local solutions to non-point source impacts.

The National Policy Statement advocates for achieving social, economic, and cultural needs, but is not clear on how this could be achieved in a balanced way. This could be addressed by included the concept of highest value use.

The highest value use should not simply relate to water quality, and the use of water in monetary terms. In some cases, cultural or environmental use may be the highest value use, as perceived, or agreed by the catchment community. To some extent this concept has been applied to Lake Taupo due to its iconic status. A highest value use approach could not only provide for achieving balanced social, economic and cultural outcomes, it could form the basis of decision making for catchment user groups.

In summary, changes requested in our submission are aimed at modifying the National Policy Statement to provide more direction on integrated catchment management, so that catchment users play a more meaningful role, and secondly to provide direction for the integration of requirements of different users, so as to achieve mutually agreed beneficial outcomes.  
Thank you Mr Chairman.

**CHAIR:** Thank you. There may be some questions I hope you'll agree to consider some of those, if there are some. Thank you.

**MR FURNESS:** Yes

**CHAIR:** Mrs Vernon.

**MRS VERNON:** Thank you. Going back to your first point which you make on – at the beginning of your submission about the non-regulatory initiatives, and of course it is much easier, and nicer if people can work along beside each other without rules. But there has to be a bottom line sometimes for the last 10%, so would you not kind of see that somewhere along the line, you do need some rules, or some bottom lines to bring everybody into the team.

**MR FURNESS:** Yes, but I think what we would envisage for example would be user groups, and you could probably identify five key user groups. And if

you looked at what their water quality needs are – very seldom is it a absolute single value. Very often, in most cases, their needs can be met over a range of water body values, from obviously the ideal situation, to the just tolerable, or acceptable level. And between them there's a, you know, there's a spread of values. And for – again many of the water body parameters that people are interested in – if you look at the different user groups, that range of values overlaps. So, by bringing them together people can put forward what their requirements are, look at that range of values, and find some areas where you get the overlap. That gives better buy-in we feel to both sides. Agricultural groups, or farmers can see, “well we've got some need in terms of the water (inaudible) needs of stock watering, or irrigation - these are the values we need,” and it just so happens they also overlap with perhaps cultural values, or recreational values. You've then got a value within those ranges, which all those community user groups can buy into and commit. So when a farmer's doing something, he's not doing it, because somebody else said he's got to do it, he's doing because he's going to gain from that as well. He also gets the – well he also understands more how his activities are going to impact on some of those other user groups. Now once that value is agreed, there is no problem in incorporating that into a Regional Plan, or whatever, as what that catchment is going to achieve. So it's not setting something up which excludes a regulatory, or rule based system, it's just how you get there. And obviously thinking that through, it does promote the concept of a site specific, or catchment specific water quality values, based on what that catchment is actually using, or why it's important.

**MRS VERNON:** Thank you. We – in our – I'm just interested you've – you obviously support the use of the term “catchment” which I've picked up. In the same objective, which is Objective 2, what is the industry's view about “land use development,” becoming “land use and development.” Because there is – there is a subtle difference.

**MR FURNESS:** There's a subtle difference – yeah. I don't think we'd have a problem with it – with that move. I hadn't really thought about too much, but yeah.

**MRS VERNON:** That – well that's fine. The – in Objective 5 you – you are asking to change some words – from “control” to “manage.” And I just wonder you know, the NPS is largely at the moment talking about future – doesn't that really lower the standard in – and I understand where you're coming from, because that fits in with your first comments about non-regulatory – but you know, when it is a National Policy Statement for the whole of New Zealand, and we've got some communities that are really proactive, and they're making an effort, and then you've got others, that are kind of not doing anything – a word like “manage” will let them kind of still slide out underneath the bar.

**MR FURNESS:** Yeah – I suppose it's a couple of – comes from different points of view. One idea - one is that – probably feel that the “manage” option better describes what could happen with the user groups in the catchment. They are coming together to manage their catchment, as opposed to one group coming along to “control” what's going to happen in the catchment. So that's one side of it. The other side is just a personal thing about control.

**MRS VERNON:** And that's a very fair comment, because you've written it from your perspective of that, and I'm sitting here looking at other – so that's very helpful.

**MR FURNESS:** I suppose like managing staff as well. You can control them or, you can manage them – there's a bit of a difference there.

**MRS VERNON:** So that comes from your user group, sort of concept.

**MR FURNESS:** Yeah, concept – yeah.

**MRS VERNON:** Thank you very much.

**CHAIR:** Dr Harding.

**DR HARDING:** So the scenario you're presenting, correct me if I'm wrong, would be one where every catchment in the country would have an integrated catchment plan.

**MR FURNESS:** Yes, I think it should be more catchment based – yes. And you know, that could vary, there may be quite a detailed plan for the catchment if you've got a large number of users with a lot of expectations, or it could be relatively simple, for example, if we look at some of the catchments for Auckland, their water supply. Those are limited to potable water supply at catchment, and that's what it's managed for full stop. So there's one user, with one set of values. You know, relatively straight forward. But, yes, that's what we would envisage over time. Obviously it's not something that would happen tomorrow, because you would have to get the groups going – bring them together, but that would be the long term aim.

**DR HARDING:** And in every catchment there would be one of these water management groups, so we – we're talking about thousands of these groups.

**MR FURNESS:** Yes, yes.

**DR HARDING:** And they would decide the best value use, or the – we talked about the highest value use, and the best value users of submission.

**MR FURNESS:** Well in a lot of catchments, there are different user groups, but if you look at them, most you could – and as I said there are probably five user

groups you can identify. It's very – you can get catchments where one use may dominate, but quite often there's one more prominent use than the other – if that's the case, that's the one that you would obviously work to achieve, but still bring the other groups in, so that they are aware of why that is the dominant use in this catchment. For example, it might – we've given example of the potable water supply, now that's the dominant use there. But in another group where you get some mixed users, there may be a cultural issue – there's some specific cultural importance within that catchment. And that might be the driver of the main, most important use within that catchment. It doesn't exclude other uses, but it does mean that the other users have to take cognisance of – for the reasons given – that particular requirement within the catchment. Another one might be totally dominated by agriculture, with very little fishery – also agriculture may be the dominant one there – it doesn't mean they do what they like, but there is a dominant use within that catchment, but there's still a need to consider others – other user groups within that catchment.

[11.51 am]

**DR HARDING:** Yeah, I mean I guess I see that – the potential for a situation like that where, who speaks for the environment. In other words, I can imagine that there might be potential throughout the country for agriculture to be considered to be a dominant use in a lot of catchments. Urban areas obviously we've just heard that storm water is extremely important, and in those sort of conditions, those sort of situations, then who speaks for the ecosystem health.

**MR FURNESS:** Yeah, well I would see a user group which you could probably call conservation, which would include recreation and environmental. Now, that might be a local, if you talk from recreation, a local canoe club, because it's very strong in that river, and they would be the user group there. In terms

of broader environmental type issues, it may be a prominent body such as one of the NGO's, or it may be a very strong local group that, that speaks on behalf. I think what we also are alluding to without actually saying it is, we probably think in a, mostly I think current approaches to water quality are not actually working. There's the confrontational, adversarial situation where it's us and them, and they're not going to tell us what to do, sort of thing. So you need a change in thinking and approach, to actually get a better outcome. And with the sort of structures we've suggested there would need to be a change in thinking and approach along with that to achieve those outcomes. And you could say, "oh well that's going to be a long-winded process," but what we've been doing up to now hasn't really improved the situation. In fact we've told there's deterioration. And I know amongst farming groups there's not, there's many of them, there's not an acceptance that water quality is deteriorating, or that it even needs to be addressed. So, there's a change of attitude needed, and I suppose we're trying to match those to a different approach, generated by a change in attitude which will lead to better outcomes, which is not really a hard science that we're supposed to be dealing with, but it's trying to look for solutions.

**DR HARDING:** Thank you.

**CHAIR:** Could you – could you foresee that it might be desirable that the catchment stakeholders group, might also have a representative of Tanga te Whenua involved, because of their considerable interest in fresh water.

**MR FURNESS:** Yeah – I would see – I would see out of those five users, cultural being one. And that would be the Maori perspective, and I think they would play, you know, well obviously depending on the catchment, but could play a very prominent, or deciding role in, depending on the cultural values within that catchment. Yeah I would see that as -

**CHAIR:** And would you think that there would be some connection with the Government system – in other words, would there be some perhaps Regional Council representative, or would – who would keep their eye on the ball as it were, for taking action to make a difference.

**MR FURNESS:** I suppose at the end of the day, what that group decides on, would have to move to – to actually get it in a regulatory system to a Regional Council, or Local Authority, and obviously they would look at it and say “yes, it seems fine to us,” or “hold on, you know, there’s some signs there, that you guys are – this is not actually going to work,” something along that line. But whether they are actively involved in getting the thing going, or whether they are there as the end point, which the catchment agreement is signed off on if you like.

**CHAIR:** There wouldn’t actually have to be one model for the whole country, there could be as you say, sometimes the Regional Council’s part would be at the beginning and, or sometimes at the end, and sometimes just as a supervisor, or advisor.

**MR FURNESS:** Yep – there have been some cases on a small scale, which have already worked. We funded a project in some shallow lakes up in Northland. It was a sustainable farming fund project, perhaps five, seven years ago. That was started up by a group of about five farms quite a small catchment, with a facilitator. They got going. They brought in some scientists from NIWA, from AgResearch, and they wanted to address some issues with a lake that bordered on a number of farms. There was algae coming in the lake, and the marginal growth, and how do we deal with it. So they got together, but when they started off they said “we want to get this going not many conditions, one of the conditions – Regional Council is not involved. We don’t want a Regional Council person here. We don’t want the minutes of our meeting going to Regional Council.” Facilitator said “okay.”

That worked very well, and in fact it got to point where the facilitator - farmers were trying to hold them back. They said, "we'll go and do – next week we'll do" – they said "well hold on, we're still doing some measurements there," but by the end of it they were comfortable for the Regional Council to come into that process. A similar sort of undertaking is happening at Rerewhakaaitu in the Bay of Plenty, where, it happens to be the same facilitator who is doing it, but there, there's more active involvement with the Regional Council on an earlier stage. So it depends very much on, on the particular situation, and the history that's gone on before that, yeah.

**CHAIR:** Thank you. Well we're very grateful to you Mr Furness for having prepared and presented the submission on behalf of the association, and for sharing your experience with us, in this exchange after your presentation. Thank you very much indeed.

**MR FURNESS:** Thank you.

**CHAIR:** So we're expecting our next submitter at ten to two. So we'll take a break now.

**ADJOURNED** [11.57 am]

*Audio file: dpm 0126*

**RESUMED** [1.46 pm]

**CHAIR:** Good afternoon gentlemen, please be seated.

**MR LE MARQUAND:** Thank you Your Honour.

**CHAIR:** Now as you know, we're hearing submitters on the National Policy Statement speaking to their submissions and we're doing that without any particular formality at all and we invite you to present just as you wish to do so.

**MR LE MARQUAND:** Thank you very much Your Honour, members of the Board. What I'd like to do is just take you through a slide show. I'll distribute hard copies of the slide show that will be handed out as well just in case there's – there's a power cut, the computer didn't work.

**CHAIR:** Thank you.

**MR LE MARQUAND:** And I'll effectively be speaking to, obviously not the submission on the tabled of evidence.

**CHAIR:** Thank you, yes.

**MR LE MARQUAND:** My name's David Le Marquand and I'm from Burton Consultants, Resource Management Consultants based in Auckland here and I've been giving advice to the oil industry for the last 15 or so years. With me this afternoon is Cameron Taylor from Mobil and he will just advise his position.

**MR TAYLOR:** Cameron Taylor from Mobil Oil New Zealand. I've been in the contaminated land industry for almost 20 years, currently a senior environmental adviser at Mobil Oil New Zealand.

**CHAIR:** Thank you.

**MR LE MARQUAND:** So what we'd like to do is just present an overview of our key concerns that were canvassed in the evidence and in relation to the NPS. The submission, and the evidence has been prepared on behalf of the Oil Industry Environmental Working Group, that's OIEWIG and that's consists of the four majors, Shell, BP, Chevron and Mobil which of course – and of they've been I guess in a collected role looking at the regulatory environment under the RMA, making inputs and submissions in the process and also providing technical advice to councils and developing a series of guidelines over the years on oil industry matters and concerns.

Now the oil – one of the reasons the oil industry is interested in the NPS is that it has a – they all have national networks and therefore, and to be affected and influenced by a range of regulatory instruments up and down the country, and the various interpretations on things in respect of that.

Their primary interest relate to issues of storm water, and in terms of contaminated land management. They're not really interested in the issues of water allocation perse and except probably in relation to how the ground water resources are defined in terms of the NPS and the inter-linkage there is in there in terms of how you process discharges and so on is undertaken. So our main focus is going to be on the water quality issues and aspects.

The industry has developed a number of guidelines over the years which is done with, in association with the Ministry of Environment and with the

collegial input of various councils. The first one I've highlighted there is the guidelines for assessing and managing hydro carbon contaminated sites, which is a very widely accepted guideline up and down the country, and it's also currently about to be reviewed by the industry and matters relating to vapour intrusion is one area that is being assessed, and also in the process of developing some soil acceptance criteria that will assist in terms of addressing the issues of potential discharges from these areas.

The next one is the above ground bulk tank containment systems guideline, which basically focuses on the containment and permeable – permeability standards for compound for bulk storage tanks, and lastly is the guideline relating to water discharges from petroleum sites which relates to terminals, truck stops and service stations and that really does a couple of things in terms of focusing on the issue of storm water management, waste water management from those sites and provides design guidance in terms of intercepted systems.

Now the key concerns that have been raised, both in terms of the submissions and detailed in my evidence relates to the generic nature of the NPS as it has been notified and I do note I'm not – I haven't necessarily been alone in that issue. Recognition of industry codes of practice and this relates to basically the fact that the number of policies have linkages into industry good practice. The no further degradation objective, potential duplication of functions and I guess how defining – how we go about defining degraded water resources. Those are the key concerns.

I think one of my concerns with the NPS as it stands at the moment is being very generic in nature, it's very broad and it's open to a wide range of potential interpretations, and it is quite possible in my view that many agendas could be floated up on the back of that at this stage, and as a

consequence there's a certain degree of – there's a lack of certainty in relation to that.

[1.56 pm]

Certainly you know there's experience with variability interpretation as we've been involved in advising on behalf of companies and other clients around the country, on how is policy infrastructure picked up. I've been involved on behalf of another client, TransPower, in relation to the National Policy Statement on electricity transmission and that is a, quite a targeted NPS in my view and it's still generating a considerable range of interpretations, which are quite challenging in some areas and my concern is that if we don't get something as targeted as possible, that it would be considerably more difficult than we're already finding, with the likes of the National Policy Statement for the electricity transmission.

I think the other issue relates to unintended consequences and I've read the evidence of Wayne Russell, who I thought gave a very good account of ground water systems and some of the issues relating to that, and he was obviously looking at it from the point of view of mining, effects from mining. I think another unintended consequence that the oil industry is concerned about is how this might impact on the issue of contaminated land.

Turning to the issue of codes of practice, now the National Policy Statement does make reference to the industry good practice in a number of policies and it's sets that as a minimum standard and the – it's not defined and the question is, well what is it and it's an interesting I guess, interesting debate. We've had that with a number of councils on issues, what is considered to be industry good practice and certainly from the industries point of view the codes that I've just referred to, they certainly

view that as industry good practice and we've had experience in a number of jurisdictions where certain staff will take particular views on what is an industry practice and say well it has to apply in the circumstance, where in fact there may be quite – some quite significant differences in either the New Zealand situation or in terms of the way things are actually implemented. I've also seen this in relation to the application of standards and where you've got things like Canadian guidelines or Hanzac (ph) and something from the EPA. There's been some – a range of I guess examples where staff may have a different view in respect of that and there's nothing actually locked into the planning process in terms of saying, what circumstances they can apply certain standards.

The Ministry for the Environment in relation to contaminated land tried to address this issue by setting a hierarchy in their draft, not in their draft, in their guideline document on how one should apply particular standards in relation to contaminated land, and they started off with hierarchy relating to, New Zealand standards and working down in relation to the obvious various contaminants where that information isn't easily available. And I think one of the thrusts there of the evidence is to actually say, well can we get some process by which we can look at having those explicitly recognised so there isn't this ongoing debate on – at that sort of interface and when to apply these guidelines and when to not, not to apply these guidelines. So it's a question of councils I guess being put – being explicit in listing the types of codes and guides, standards that they are prepared to operate on and obviously then that would trigger a process of input and challenge if they were not appropriate.

We have had experience for instance , not too far from here where the – a particular council has developed its own standards in relation to contaminated land where it hasn't had any reference to the national standards as they are accepted by Ministry for the Environment, and some

of the numbers that are involved do raise issues of, in terms of science and that's, maybe that's an issue that Cameron can expand on later.

As I've indicated, the guidelines have already been updated and I've indicated in relation to this particular issue, I've suggested the policy in terms of my evidence that may give some guidance in terms of how these issues may be picked up in terms, how they can derive and arrive at a position of understanding of what maybe industry good practice.

The concern with the no further degradation objective is that it could potentially be too absolute, in its current form and set a zero threshold. Now this is particular concern because it's in relation to contaminated land, the – a zero threshold is something that – it makes the management of that very difficult. Currently there is a – many councils are going through the process of issuing the likes of passive discharges as a means of managing contaminated land and the – there is a concern, if you like, in terms of how interpretations may arrive. There's an imperative at a national level for a no further degradation zero to apply to managing that regime.

Contaminated land is not about active discharges. It's something that's happened. It's something that you could never actually apply to get a consent for, and you'd never be issued with one anyway. They happen, they're historic and it's trying to readdress obviously an issue that can be quite difficult obviously because it's escaped in the environment, trying to get it back and it's a question of how one manages it.

As I've indicated, contaminated land does allow a massive – no that's wrong, passive in some circumstances it may have been – passive discharges and the – I'll get Cameron just to talk in the next light about the issue of monitored natural attenuation but also the – I've included in my

evidence a definition from the guidelines relating to sensitive aquifer and this is if you like the linkage back to the water allocation side of things. How classification occurs in relation to those ground water resources. Now those guidelines set a base, a clear basis upon which that is to be looked at for particular process of contaminated land, but obviously with the NPS, driving in a particular direction and the classification process, there's going to have to be another one. I mean there's – sitting out there as well and it has no – as well, they've done their own process and we're trying to get – interesting in ensuring that there's a regime that's compatible with that, and actually doesn't result in a situation where all the good work so far that's been going on in relation to contaminated land means that there's a driver there to come back, and suggest that they've got to take a different approach, that things like the rules that they've got in the ARC plan for here at the moment would have to be reworked with that in mind. So if I just hand you over to Cameron in relation to monitored natural attenuation.

**MR TAYLOR:** What we wanted to do here was just to provide an illustration of the practical implications of no further degradation objective, and how that would impinge on our current practices across the industry in New Zealand.

[2.06 pm]

What we have here is a conceptual model of a typical contamination issue that may have arisen in say an underground storage tank, which has caused some soil contamination, some ground water contamination. Typically the first process we get involved in is stopping the source, removing that primary source, so if it's a leaking tank or a leaking fuel line that would be our first focus.

Now one of the processes, one of the very pragmatic and sustainable processes that we use in the mediation field is monitored natural attenuation, and that process is using the natural soil processes that are occurring in the soil to degrade and remediate residual contamination. So those key processes are the volatilisation from say products in the soil, into soil air and then above ground vapour. Bio degradation, so that's natural degradation by naturally occurring micro organisms in the soil, and then dispersion and dilution in the ground water itself.

Monitored natural attenuation has been particularly effective for controlling hydro carbons all around the world. It's a reasonably well understood science and it has a wide range of applications in many countries around the world.

We typically applied the process of natural attenuation where we are able to remove the primary source, so where we have no going losses to the ground. Where we can show there's no immediate risk to human health or the environment. If there was an immediate risk, then it would warrant some immediate action, but where we can demonstrate no immediate risk to human health and the environment, then we're basically buying some time to manage that in situ. Again, we need to be able to monitor that contamination to make sure that is degrading over time and that we can continue to assure the absence of risk.

Over the last 10 to 15 years I would estimate there would be hundreds of sites in New Zealand that have used this approach, or continue to use this approach.

Our concern is that with a no further degradation policy it may preclude or reduce the acceptance of these sorts of sustainable remediation approaches with Regional Councils and Territorial Authorities, and as a

consequence there will be a lot more activity in terms of resources, resource consumption and much larger carbon footprints, if we get involved in more active remediation. This is very pragmatic, very sustainable approach to remediation. It's not – it's a long way from a do nothing approach, because there's, there tends to be annual monitoring required so rather than getting in there with large excavators and large pieces of equipment to excavate soil and take it to land fill, we consider this a much more sustainable approach.

And as I say, that's just an illustration of one of the ways we see the no further degradation policy, objective – or objective may impinge on our business.

**MR LE MARQUAND:** Turning to the issue of duplication of functions. Because the NPS doesn't duplicate functions, because the functions are set out in the Act, but the – I guess the concern here is that there is a potential overlap on some of these matters and the NPS is obviously driving territorialials to consider water quality in terms of those, in terms of its activities and dealing with land changes and variations. Now certainly I agree there's a role in respect of that when they are developing the likes of structure plans, and those types of activities when they're looking at the impacts of growth, that's appropriate. The concern I have is again, it comes back to when you're looking at the likes of contaminated land and if they're involved in a situation where they're issuing consents for that, they then consider that they might need to start looking at the issue of passive discharges by default. Now the – we're looking at this particular issue actually in relation to plan change 69 down in Wellington where one of the matters that they've – they are looking at relates to surface and ground water quality which is obviously the, really the area that the Regional Council should be looking at in terms of any passive discharge, and the intent really is that we'd like to see the NPS I guess give a clearer

direction in terms of where they see the roles and function, or the interpretation of the matters relating to water quality in terms of that interface, because there is a potential overlap there and there's obviously issues relating to expertise and so on that do rise and become potential issues.

So in terms of the outcomes, what's the oil industry seeking. Sorry I've missed that – in terms of degraded water resources, there is a definition relating to degraded water resources and I've, in my evidence I raised some issues in relation to that which I prefer to see it called fresh water resources to be enhanced, rather than degraded and this is for a number of reasons. One, I think it would send a – not the sharpest signal to overseas markets. I'm not necessarily 100% denier, but it would send a – if suddenly councils were required and notifying that there were all these degraded resources around, it would send a, I think a particular signal. It may not necessarily be of benefit. If it was defined as fresh water resources to be enhanced, I think it would be identifying the direction that the management is intending to go, and it would also mean you know, you're implying the sort of concept of trying to be fit for the purpose and you've got some way to get there.

I think the other issue with that was ensuring that the ground water complexities that are certainly, Wayne Russell's talked about, can also be picked up and addressed, particularly in how one goes about defining what is considered to be sensitive. And the other thing in relation to classifying water is, which I actually – I am supportive of in terms of doing that on the basis of a catchment basis, is clearly one of the biggest drivers in any situation in terms of water quality is what's already permitted by district and regional plans and there needs to be some consideration in doing that, when going back and classifying the waters in the first instance, otherwise the focus just tends to be on the latest people who are

coming back with resource consents and it's not – you run the risk of not managing catchments on a whole basis and certainly that's, with one or two councils around that I think have had some issues in relation to that sort of approach really. Just focused on side by side type of approaches and not considered catchments as a whole.

And in terms of what the oil industry would like, there's a clear direction and guidance as far as possible as you can at a National Policy level and some of that may require having a clear linkage to the issues that are being targeted and having some of those separations in terms of the likes of the ground water dealt with. Recognition of the MfE guidelines as good practice, by the use of the – some sort of policy along the lines, I'm not going into the wording, but something along the lines that I've outlined there. Ensure that the, I guess the contaminated land policy and direction that the Ministry of the Environment's been going, which the industry is supportive of, is not – doesn't become fuddled and we have been trying to advocate its own NPS. My understanding is an NES is currently being developed in relation to that in any event.

[2.16 pm]

Deletion of the no further degradation objective so that we don't run matters in that, in that form. There may well be situations where it is appropriate that some water bodies are managed in that respect, so I'm not saying that's a no no, but that has to be arrived at once appropriate research and so on is being worked through in terms of classifying the water bodies, and identifying the values in relation to that water bodies. Obviously catchment based approach for classification of waters and an expectation that the territorial authorities would have some guidance in terms of what they will be expected to be undertaking in relation to water quality.

Thank you. That's our presentation.

**CHAIRMAN:** Well thank you Mr Marquand. We've had the benefit of your evidence statement. We've read that, and I take it you'd like to just have that accepted as such without any further formality. Is that the way you'd like to see it?

**MR MARQUAND:** Yes, thank you.

**CHAIRMAN:** Thank you very much. And is there anything, Mr Taylor, you were wanting to add before we come to any questions from the Board?

**MR TAYLOR:** No thank you.

**CHAIRMAN:** Thank you very much. Well let me see if there's any questions on which we would like to have some further help from you. Mrs Vernon?

**MRS VERNON:** Thank you. Going to your evidence on page six, paragraph 3.7, and you've also mentioned it a little bit this afternoon as well. In your second sentence you talk about that councils can set higher standards, but - and maybe I've misinterpreted your meaning there, they are much more than minimum standards. And I just wonder is that wrong of individual communities to have different expectation? If it's done through a public consultation process. I mean we've had submitters today and over the whole time so far saying that there are differences in different catchments, and differences between urban and rural, so why would it be unexpected that there would be councils that want more than minimum standards?

**MR MARQUAND:** In terms of these guidelines I accept that there is a difference in resources around and obviously, in some situations, (inaudible) catchments and so on, you may be in a situation where you didn't have those facilities. And for instance Environment Canterbury's in fact going down that process now, in terms of like the recharge areas for contempt of hazardous substances.

I don't think there's a necessarily big issue with communities arriving at certain things for those different types of things but it's got to be, I guess, demonstrated. I think we're more at the issue –and it comes probably more foundly in the urban area, where there is variation between uptake and understanding of these things by different councils.

As a basis of a minimum, it goes back to the question is, well what's a minimum, and what is a minimum of it, in terms of industry practice. And at the moment I think it is disjunction between say the guideline and what the concept of industry or practice may be. We're trying to say, well we think they are. This isn't (inaudible) practice, but that's not necessarily even understood as a fundamental that this good practice.

If there was a wider acceptance in some areas in relation to the guidelines would that be fine. In some areas where we've had some of those discussions, the planning framework hasn't necessarily even been in place. So it's, it's been more at a – not at a type of level waiting for things to be finalised in terms of plans.

**MRS VERNON:** That also leads to my next question about your – and this is also in your evidence, but you did raise it on your PowerPoint presentation – under ten in, on page 15 about the TA's induplication of functions in regulation. Now excuse me if I've got it wrong, but I thought that TA's did really deal with land use consents. And that regional councils really only

got involved with take and discharge of water when it applied. And that we've had quite a few submitters saying to us, that really it's the land use issue that, at source where a lot of the affects to water quality can be stopped or improved. And so I just wonder why you think it should just be the regional councils. That surely in fact, and I can give you an example like say the remediation for the Tui mine. I mean that is going to be a collaborative approach between the district council, the regional council as it happens, also the central government. And we've had district councils and city councils saying that in actual fact land use, at source, is really important. So why your emphasis so much that perhaps - and I hear you about expertise and sure some of the smaller rural districts may not have what ARC or Auckland City have, but why such a strong push for just the regional councils?

**MR MARQUAND:** Well what I'm trying to say is try and demarcate that, in my view it should be seamless. 'Cos you don't want any gaps. It depends on the relationship between obviously the district and regions in some situations, and it's about to change obviously here.

The key concern that's been bored out of, I guess experience, where as I say we've had the situation where district is trying to write it's own standards. And it's not having any (inaudible) of what the standards been written by the regional council. I'm not necessarily saying this is widespread but some of the people that we deal with we know – we leave the door open, they are going to take the next step in terms of saying, "right, this is the green light for this type of activity." And it's really to try and say well "we've got some concerns" when we're going down say development of their own standards, which may include things related to (inaudible) water standards that we – that hasn't had any peer reviewed processes not linked to the plan. But once you've got your consent in then you're subject to an effective haggle, unless you obviously get it right

during the process. And some of these situations, they're under various time pressures for the clients and that's the issue.

**MRS VERNON:** Is it that they're asking you to do something unachievable?

**MR MARQUAND:** Might just hand that over to -

**MRS VERNON:** I mean, is that what your -

**MR TAYLOR:** In some cases, and I guess and we've had an example in recent, last couple of years where the regional council is very much in line with MfE policy, but then the territorial authority have come up with their own standards that are substantially higher, more restrictive. Whether they're achievable or not I guess we didn't necessarily get down that track, but those standards that the territorial authority derived themselves was all done in house, without any real peer review, public consultation or any of those sorts of processes. So that was our concern.

**MRS VERNON:** Thank you. And I think this is probably in your territory as well Mr Taylor, if your monitored natural attenuation, you talked about making a larger carbon footprint. A question just for me, when it is a pest – and I guess that's what you mean by pest of discharge – this diagram.

**MR TAYLOR:** This process.

[2.26 pm]

**MRS VERNON:** Yeah this process. I wonder what happens, and I'm not a scientist – so what happens if say for example municipals are taking water from the same aquifer. Does that increase the costs for treatment so

people can drink it? I mean, I don't understand how long it takes to diffuse itself it out and dilute or anything so -

**MR TAYLOR:** Well if people are using that aquifer, that would escalate the risk to those people that are consuming, so they might end up consuming contaminants. It would certainly drive us, if there was people, public drinking water from this aquifer nearby, it would certainly drive us to a more active remediation approach. This monitored natural attenuation is really only where we have a high level of confidence there is no risk to human health or the environment, and likely to stay that way.

**MRS VERNON:** Okay so it would be like a small rural area or something like that?

**MR TAYLOR:** Sure. Yeah. Or yeah where the aquifer is in a type or permeable clay material, and would not yield either drinking water quality or sustainable quantities.

**MRS VERNON:** Right, right. And just a clarification on these guidelines that you've made quite substantive submissions about, how important they are. I've just noticed the dates, and I've just for my purpose, 1998 and 1999 and 1994, well they are kind of getting a bit old. Are all them being updated because they're now ten years or more old? or this MfE one, contaminated land policy, that you've particularly referred to in your outcomes that you wanted to see, when's that going to be updated?

**MR TAYLOR:** We're talking the MfE about that process right now. We were hoping to initiate the review processes this year, but it looks like it will start next year. That's certainly the fundamental guideline that drives a lot of contaminated land management in New Zealand. And the drive for that update is really advances in technology and science, around

contaminated sites, risk (inaudible), liquid product management, those sorts of things.

When it was published in '99 it was recognised as being very leading edge, and I think we were ahead of many other countries. Australia had a similar process around the same time, but they never got to the stage of formally publishing their guidelines. So certainly the 1999 guidelines that are published we're seen as leading edge, ahead of a lot of other countries around the world at that stage.

**MRS VERNON:** And now?

**MR TAYLOR:** Certainly the concepts are still seen as very, very valid. But again the driver to review them is about updating sites, building more robust sites behind the numbers. And just bringing in developments and the technologies that we've had over the last ten years.

**CHAIRMAN:** Mr Prime? Dr Harding?

**DR HARDING:** Thank you. Yeah I just wanted to explore this monitored natural attenuation just a little bit more. So, I mean, how many of these sort of sites do you have?

**MR TAYLOR:** Well I can speak for (inaudible) New Zealand, and we would have tens of sites. Perhaps 50 or 60 I'm guessing, that sort of order. So if you multiply that by the number of oil companies, we're talking hundreds of sites. And they're active sites that we are working on at the moment. Historically, over the last ten or fifteen years, a large number, definitely hundreds of sites around the country.

**DR HARDING:** So when this happens you have some biodegradation occurring of some components of the hydrocarbons, but not all presumably. There are some compounds which are -

**MR TAYLOR:** Well some compounds, the more volatile compounds that tend to volatilise quite quickly. Some are more prone to biodegradation. Others are totally more soluble and leach into ground water, and then get diluted and spread that way.

**DR HARDING:** So how do you sort of – I mean you've talked about obviously if there's a human health at issue then you would change a strategy and do something active about it. I guess I'm also wondering about the environmental impacts. I mean, how do you know that there's no effect in a groundwater environment or not? That sort of thing – how do you monitor groundwater in a sense?

**MR TAYLOR:** Part of this process we'll be installing groundwater monitoring wells, so you would have a number of wells installed to delineate the extent of the contamination. And they monitor that over time. And what we typically see is that contamination decreasing in extent over time. And that's one of the primary indicators that monitored natural attenuation has been effective, you can see a decrease in concentrations in groundwater in a decreasing extent over time.

**DR HARDING:** And you're measuring that decrease by a change in the concentration, they could be just dispersing wider and wider potentially?

**MR TAYLOR:** Sure and dispersion is one of the processes involved, there's a number of indicators we can use there's concentrations, if you look at soil and ground water chemistry to see how that's changed outside the contamination zone, dissolved oxygen there's a whole number of indicators we can use. Carbon Dioxide generation, oxygen consumption,

iron consumption, primary electronic sectors we can look at, so there's a whole raft of different indicators that we can use.

**DR HARDING:** Do you monitor the ecological community?

**MR TAYLOR:** Not at the ground water itself, I mean I'm aware that they do that in some cases in the US, certainly hasn't been done in this part of the world that I'm aware of. If the surface water body nearby then that would be one of the environmental issues we'd be looking at, the risks and the impacts to the surface water if background water was discharging to a lake or a river of some sort.

**DR HARDING:** Thank you, the only other questions I had was in the statement evidence, that was on page 11 in 7.1, there's a reference there it talk about the standards and time frames and that sort of thing. And you finish off by saying council should be able to choose timing proceedings such standards for other water resources. I guess the point here is some of our submitters are saying what they don't want to see is a business as usual scenario, and the opportunity for councils etc to do nothing. Would you want to comment on that, or offer some advice on that?

**MR LE MARQUAND:** Yeah I think the concern I have with the time frames as they were, they were very tight, and I think it is the evidence - Mr Russell's indicated that especially looking at the issue of groundwater it's going to be very hard and very difficult to (inaudible) information like that, and where they have to have been, in the likes of Canterbury, where it's still not necessarily perfectly understood. So I think I have certainly no objection to them committing to a schedule, and a timeframe on how they're going to do it, and I think that's good, and they need to be helped to actually do that. Because I wouldn't support a business as usual either necessarily on that, because I can think of one particular region, it's not a big issue for a number of other regions, because they've probably gone a lot further down that pathway in some other councils. But, I think you take

this region as an example, there would be very useful to have some time frame that they are required to commit to. And they could do that through a process, and the policy could actually require them to actually define a schedule, and programme words by which that has to be undertaken. It may set outer limits, and its going to be achieved, but I think I was very concerned with the very short order of time at the front. Particularly, I know for instance, again we'll take this situation here, the data, the only data that the regional councils has is ecological data, and my understanding is they should value the water quality in and around the area, they don't even take beach water quality samples, that's the districts that do that.

**DR HARDING:** Sorry they don't take - sorry I missed that -

**MR LE MARQUAND:** Bathing beach quality samples, its the districts that end up doing that.

**DR HARDING:** Okay thank you very much.

**CHAIR:** Your industry is, as you've shown in your third slide codified good practice in the industry in these respects that you've listed. You've done that yourselves, without having any mechanism imposed on you, you can choose your own mechanism. And what's more you're also choosing to revise them or review them again without that being imposed on you, just as a matter of good practice, is that right?

[2.36 pm]

**MR LE MARQUAND:** That's correct.

**CHAIR:** So I'm not quite sure why it is that you're making a plea for a mechanism for recognition of codes or guidelines when you're quite happily getting on with it without a mechanism, you've proposed?

**MR LE MARQUAND:** I think the answer is it is in places, but it's where councils accept and understand what is good industry practice. The NPS at the moment has this concept of industry good practice, and what we're seeking is that there is some process by which they can identify what they understand as being industry good practice. Because invariably, it's not necessarily held by all council officers in terms of that.

**CHAIR:** Well in the end isn't it a question of fact like any other question of fact that applies in resource management planning, that unless there's a genuine argument, or genuine dispute that has to be determined independently, the question of fact is decided on the evidence. And if there's evidence of good practice guidelines, such as you know, doesn't that provide the good practice benchmark, unless there's another one to be set against it?

**MR LE MARQUAND:** Yes it does, but I can give you an example where there's issue to do with data management and there was an issue in terms of well what is industry practice. And certainly industry practice in New Zealand was to obviously fit vapour covers to above ground storage tanks. And the regional council wanted vapour coverage from all service station sites, in relation to the right at the pumps. So there was obviously - and they were thinking, well their view on it was international best practice. And as a minimum - and there's obviously a linkage there what are the effects or concern you have to try and manage them in the first instance. And the industry in the end did commit to undertake a first stage vapour coverage for tank filling, and have that taken back. But the issue was that, again was nothing here, any guidance in any the planning frameworks, either in the RPS or the regional plan. It was basically a debate happening at the officers level, in terms of what was going to happen and not going to happen.

**CHAIR:** And you lost the debate? Well you can't expect us to restore your position can you?

**MR LE MARQUAND:** No, no, no. I think the industry eventually went along it because they could make a business case in respect of it.

**CHAIR:** And the personal (inaudible) was consistent within international standards, is that right?

**MR LE MARQUAND:** Yes, but it wasn't necessarily where we obviously first started on it.

**CHAIR:** Yes but anything under the RMA is likely to be justified by the best international practice isn't it, I mean there's no suggestion that New Zealand wants to impose a lower standard than the international standard for the quality of the environment?

**MR LE MARQUAND:** Well it depends on the effects I would have thought, because –

**CHAIR:** Well I wonder whether you're right, I know there's a lot of glib talk about the RMA being effects based, but you won't find those words anywhere in the act will you, you'll find the purpose set out rather more filling in section five, in the way that includes effects but includes a lot of other very important values to New Zealander's as well?

**MR LE MARQUAND:** And it may be, because of where we are in relation resources and so on, that you don't necessarily need to apply what is say the latest thing that is happening in Europe or whatever.

**CHAIR:** Don't you? I'm not understanding really why we shouldn't have the latest practice, and if it's derived in Europe rather than the Auckland, why wouldn't we have it? We want our environment to be as good as the environment in Europe if not better.

**MR TAYLOR:** I don't think there is an issue with a compromised environment, it was the environment the discharge was occurring and the discharge was occurring because of I guess the lower intensity of populations in Auckland, for example relative to the larger cities in Europe. Was that the discharge actually behaves quite differently in Auckland than it would in one of those more sensitive environments.

**CHAIR:** Well would that be a good incentive for the industry in New Zealand to continue doing what you've started to do obviously, and codify your best practice so that it can be seen to be entirely appropriate in serving the purpose of the RMA? I wonder what you think about this too, somebody has suggested to us that shouldn't say "industry good practice", it should say "industry best practice". And I imagine that you'd want us to understand that these guidelines that you've prepared are industry best practice, is that right?

**MR TAYLOR:** Yes I think we've made that case.

**CHAIR:** So would you be uncomfortable with the board recommending that the submission that it says best practice be adopted?

**MR TAYLOR:** I think that goes back to that part of that debate we were having before, best practice in New Zealand or international best practice as occurring somewhere else. And I'm just trying to think if there's a contaminated land issue for example.

**MR LE MARQUAND:** Well the Dutch scenario where Dutch have very different soil, or ground water quality standards to many other places in the world because they're basically living below ground water level, and pumping it out to be sustainable. So they have very, very strict standards in that perspective, where in other parts of the world, say New Zealand, have less strict standards because we don't have the same exposures to contaminants that they may have, in terms of the direct exposures. So to

pick up a practice out of say Holland and put in the Netherlands is international best practice because it's based on their particularly environments and their particular scenarios. I would wonder if that's appropriate for the New Zealand scenario, or how it might be adapted.

**MR TAYLOR:** So New Zealand best practice is certainly relevant to New Zealand.

**MR LE MARQUAND:** I think that's one of the issues picking up international standards and transferring them here the circumstances are quite different and grabbing a number and saying well that's the one needs to apply the whole Genesis and basis may have been completely different.

**CHAIR:** Well it may be that that's an incentive for the oil industry to keep on working at enhancing its standards in New Zealand for New Zealand circumstances, and I certainly understood the sense for which you were telling us of some regional councils approach to a standard would have to be put through the appropriate consultative process. And plainly your industry would want to be a model of that as well, and I think you were telling me that your guidelines have been developed in consultation with the MfE, and plainly they would be advising some participatory process. I just wanted to ask another question if I may, and this relates to the question of your passive discharges. And it comes back to your helpful diagram doesn't it? And you're asking us, I think, to contemplate a hypothesis where the original source of the contamination has been removed, and so what's left is a situation that you describe as passive, is that right?

[2.46 pm]

**MR TAYLOR:** Yes.

**CHAIR:** And you say that should be allowed, unless there's some specific risk to people or food sources or something like that?

**MR TAYLOR:** Or ecology, yes.

**CHAIR:** Or ecology. And I'm not quite clear how that measures against the purpose of the RMA. I mean obviously looking after food sources and ecology measures against the purpose of the RMA, but even in an absolute sense of contamination, and that's what we're talking about really. It is a contamination of an important medium, and possibly more than one because your diagram reminds us of groundwater and possibly aquifers as well. Hasn't there to be an incentive for action to avoid contamination of those important media, even in circumstances where there isn't a particular risk to human food, or to the natural life of the media themselves?

**MR TAYLOR:** Oh and absolutely the oil industry in general, certainly the four major companies have invested a huge amount of effort in upgrading the systems and our equipment over the years to avoid these discharges carrying in the first instance. So as Dave suggested earlier on, it's very much a legacy issue, so we're dealing with a legacy of a lot of old civil war steel storage tanks that were put in the ground in the 50's and 60's in some cases. And they reached the end of their life through corrosion or for some other reason, some that were installed in the 60's and are in perfect condition with their paint still on them these days. And then others didn't last more than 10, 15 years just because of the environments they were in. So there's no real predictability about how long those tanks can last. Nowadays we're putting in double wall fibre glass systems with you know quite complex monitoring systems to not only reduce the probability of a loss occurring, but also to absolutely minimise the consequences if a loss doesn't occur. So certainly in the future we don't expect anywhere

near the number of contamination issues across the nation that we've seen in the last ten years.

**CHAIR:** Of course, well I quite understand that. But just coming back to this the hypothesis in your diagram you've removed the original source which shall we suggest was a tank put in in 1960 that had ended it's life. But you have this continuing contamination of the soil, and the underground water, and you seem to be suggesting, and perhaps I've misunderstood, that there shouldn't be any obligation to do anything about that. That contamination that remains in the soil, with the exceptions that you rightly described about being the source of food for humans or source of other risk for humans, or some concern about the natural life, the biodiversity of the soil?

**MR TAYLOR:** No I don't think we're suggesting it's a do nothing or a minimalist approach, its one of the tools we have in the toolbox to deal with these issues.

**CHAIR:** It's just that you give priority to the ones where there's risk to humans and -

**MR TAYLOR:** Oh absolutely and if there's a potential risk to human health and the environment, then we do something more active. You know there's lots of technologies we can use and (inaudible) it's just one of the tools in that technology toolbox. And it's only applicable in some circumstances and definitely not others.

**CHAIR:** Yes.

**MR TAYLOR:** We do a lot of active mediation around the country, most certainly.

To be read in conjunction with  
the tabled evidence/statement

**CHAIR:** Well gentlemen, thank you both for coming and presenting to us, preparing your slides, preparing the evidence statement, and thank you also for participating in this exchange that we've had. It has helped us to understand your position much more clearly. Thank you.

**MR TAYLOR:** Thank you very much Judge.

**CHAIR:** Good afternoon Ms Wilson, it's a pleasure to welcome you here, and it is very good to see you. And we understand that you are going to be elaborating on the submission that's been made on behalf of Beacon Pathway. We want you to understand that we have no expectations about formality. You can present just as you choose, and we will be very interested to hear what you have to tell us. Thank you.

**MS WILSON:** Thank you Judge Sheppard. I would like to introduce Nick Collins who is the general manager of Beacon Pathway.

**CHAIR:** Thank you.

**MS WILSON:** He will introduce our submission today.

**CHAIR:** Splendid. Thank you.

**MR COLLINS:** Thank you Dorothy. Judge Sheppard, Members of the Board, thank you for the opportunity to talk through our submission today. As you will see from our submission, Beacon Pathway is a research consortium. We are community based with representation from industry, from Local Government and from research organisations. Our focus is unashamedly, on our homes and our neighbourhoods. And our shareholders have a strong representation in the residential built environment. They are concerned with wise use of resources. They are fully supportive of building, and renovating homes that are warm, dry, healthy and resource-efficient. And in the current environment, clearly they see there is economic opportunity, and job creation around improving the quality and performance of those homes. And that is not to overlook the huge impact that water has on our economy. Nationally, only about nine percent of consented water use is used for public supply, while 78 percent is used for irrigation, 11 percent for industrial use and two percent for stock water.

Urban water is easily overlooked. We see it as being very much at the end of the pipe. My organisation, Beacon plays a number of roles. Clearly we are a researcher. We are also an important interpreter of research, a networker, facilitator, and communicator. Not just, are we conducting leading edge research but we are about ensuring that that research is appropriate to the needs of our stakeholders. We are very much focussed on demonstrating the value propositions that come from our research. The NOW Home in Waitakere City is a demonstration project. It is applying the research that we have gained through our program, engaging with councils, industry and consumers, as to how we can build and renovate our homes in the future.

[2.56 pm]

We are currently doing work on building a residential rating tool for New Zealand that provides a means to measure the quality and performance of our homes, and that will provide plans for individual homeowners as to how they can improve the resource efficiency of their homes. We work extensively with councils, and what I have in my hand here is a resource kit that we have developed for councils, helping them to understand more sustainable, reducing the barriers, sharing success stories across the local government environment. And we are currently running a series of workshops for councils, taking them through the tool kit which is a web-based kit, and available for them to use.

With respect to water, the reason we are here today, we want to simply sketch the background, and the reasons behind our submission. We won't go through how important water is in all its forms in New Zealand. It's obvious, and it's well outlined in the Preamble. We won't deal with the issues outside the parameters of this hearing, like water allocation, but

simply to note that it needs to be dealt with, as we understand that is what's happening.

You can see that Beacon has done quite a lot of research in the water space. It is continuing to do so. We leave you with copies of this. This is our latest publication focussed on water demand management entitled, "Slowing the Flow."

Dorothy, who has recently taken over Beacon's water portfolio, was previously the deputy Mayor of Waitakere City, and has a long track record in the water space. Waitakere has been practising water demand management for 15 years, and arguably, has the lowest litres per person per day in the country. Dorothy continues to be in contact with a group of councils across the country, as well as working collaboratively with other agencies like Local Government New Zealand, Ministry for the Environment and Water New Zealand. She will lead the next part of our presentation which is focussed on the substance of the Policy Statement. Thank you Dorothy.

**MS WILSON:** Thank you very much, thanks Nick. Tena koutou. It is good to be here. Thank you Judge Sheppard for your welcome.

As Nick said, river efficiency and effectiveness are a key part of Beacon's philosophy and approach. And those are the two targets that we have, which are quite idealistic targets you might say, but we feel that they are certainly reachable, otherwise we wouldn't have them.

I'll focus on why I think we need both water demand management and integrated management of the four waters in a National Policy Statement of sometime. And having a quick skim through some of the presentations, and some of the submissions, I see there is opposition in some quarters

and support in another. But we certainly support a National Policy Statement, and we are really keen that those two key ingredients are there.

When I talk about the four waters, I'm meaning potable water, storm waters, sewerage, and ground water and aquifers, so I am trying to put that package together; I know people can slice them in different ways. We will focus more on the urban environment, but most of what we say is applicable in the rural environment as well.

So I'd like just to talk briefly about water demand management itself. We have outlined it in our submission and I don't want to repeat that, but what we found in our work across the country, and the workshops that Nick mentioned, is that it seems to be not a very strong element across the country. So in councils across the country they tend to be what we call "supply driven" so in a township or a small town, the population grows, people get more water. It's driven by the supply, rather than managing the demand more carefully. And that's our observation of travelling around the country and talking to councils. So it is not a very common approach. What we are aware of now, is that there is a growing water shortage in some parts, there is flooding in others, and now we are faced with the oncoming effects of climate change, so severe weather events, all of the things you will be very familiar with I am sure.

So we think it is a sensible policy to pay much more attention to water demand management than it was. So we briefly looked at other countries like Seattle, which shows quite clearly if you put a package together, then it has quite an effect on water, on energy, on the sorts of things that you can see there. So probably the most effective is the capital cost, if you can push out the need for a new water source. But also significant cost savings in energy as well, because energy is used both at the water

treatment, and water pumping, waste water treatment, waste water pumping. So another piece of work that we have done demonstrates that. This is the Seattle example, which they were faced in 1990 with the need for a new water source. And they decided based, really working with their economists, that they put together a package of measures that would reduce their water demand. And they have done that very successfully. That's just one example, of sort of the international literature that's available.

This is the sort of energy costs that can be reduced by very carefully a), reducing your water use, so you use less energy, but also re-looking at how you manage your infrastructure. So we looked in an urban situation, obviously, at the breakdown of where people use water. And most people I think are very aware of where water is used. It seemed the obvious place to start.

And I think we are obviously well aware of the kind of mechanisms that you can use for water efficiency, whether it be the water efficient showerheads, the dual flush toilets, the grey water systems in the water tanks. And the technology itself is improving, which is great. So we are used to - I never really thought I would be talking about toilets, but anyway, used to flush 11 litres merrily away every flush. Now with the really sophisticated dual flush toilets it is down to 3 or 4 litres per time. So you can kind of see, in those sort of figures, that the technology is keeping up with us as well, which is really helpful.

And now we have got much sexier water tanks so that in an urban environment they don't plonk right in the middle of a section, and look like a, you know, monstrosity, so very well shaped tanks now.

In the research we did, we could see that the cumulative effect of a number of these kinds of mechanisms, right from the very simple little gizmo, which is this little device here, we will give you one of those. It is a very simple thing that we actually used in Waitakere way back in the water so-called crisis of '93. In the middle of your toilet cistern, is the pipe that comes up that I think it is connected with the float system and so on. If you hook one of those little things into the pipe, either inside or out, you can manage your own flushing, so to speak. That reduced in Waitakere City with nothing else reduced our water use considerably. So you can see it's about maybe a couple of dollars, maybe 50 cents if you get a whole lot. It saves about five to 10 percent of water in a household. You add that to tap aerators and down the right hand side, and you can see a kind of cumulative effect of a package of these things that you might put together depending on your particular community.

Going up to what I'd would call the more expensive end, around big rain water tanks and grey water systems, so there is kind of spectrum, here from water use efficiency right across to cost and difficulty, from the very simple little thing like what we call the water gizmo right across to the more, I guess, the more expensive and longer term payback devices. However, it's quite clear to us that metering is the key implement for water demand management, and I know that raises quite a few issues right across the country.

But those sort of examples, the Tauranga one, we are working with them currently on a value case for water. They have pushed out the need for a new water source for 10 years. And they have also pushed out the need for upgrading their wastewater facilities also. So it's a double whammy, reducing your water input. Nelson's obviously been successful. We don't have figures for the commercial end of Metrowater, but they assure us it has been substantial.

[3.06 pm]

So this was a few years ago now, about two or three years ago now. But that's the sort of figure's - I said Waitakere is arguably the most efficient, mainly because Nelson itself will tell you that they have quite a big wastage, and so it is not clear to us quite how that figure came, but we take them at their word. So you will see the asterisk ones there, are lower than the ones who are not metered. So you can just see quite obviously the effect of metering. We are well aware of course that there is quite a lot of community worry about water privatisation, and that's an issue that would have to be worked through with each community. But the results there are quite clear. I guess we would like to make, I mean this is the Beacon house that Nick mentioned. These are the results here, where without any real effort, there was a 50 percent reduction in their water use simply by using those sort of mechanisms, and that didn't account for the energy use as well.

I need to make the point we are not talking about hair shirts here. So we are not talking about heavy measures. We're really talking about sensible, practical kind of packages that can be put together.

I guess that if you then look at the urban environment, we look at the different way that a lot of townships have approached it. And it seemed quite clear to us that because a lot of townships have gone for centralised infrastructure, it has kind of disconnected people from the outside world. So people flush the toilet or turn the tap, or whatever, without any connection to the natural environment, just as this sort of little tongue in cheek cartoon sort of shows. And I think what we have realised is that people - councils often see it as a lot harder, because you have to put together quite a package of things. You have to work with your communities in order to engage them in the issues there. So you will

know, that these days to try to attract the attention of communities is quite difficult, so you might have that kind of short attention span, as a challenge in front of you.

But we can point to numerous examples right across the country of communities really being involved in, whether it be repairing, planting or water issues. This is a little snapshot from Kapiti, where they simply used buckets to show how much was a shower, how much was a toilet. Down the bottom is the fairly famous project Twin Streams in Waitakere City involving the project Twin Streams Fairy, engaging the children, and engaging the children in all sorts of things. But I guess that in that package, where you role model good practice, and I say “good practice”, rather than best, hearing the last discussion, it’s seen as harder, it’s not seen as easy as - and I know there’s resource consent issues with big infrastructure and it is probably not seen as that easy. But generally speaking people see these sorts of packages as more challenging and often because the decisions are made by - bless their souls, engineers. They don’t think of these other aspects. So we are quite keen that somewhere across the council we look at that kind of package, that council can manage its own infrastructure. Council can price and charge to, I guess, demonstrate the value of water. They can role model. They can egg, they can bring the consciousness up of their community, with all sorts of benefits around energy, around climate change and so on, as well as needing to have a kind of consistent package of regulation policy guidelines as Nick indicated, another piece of work that Beacon’s done.

So the kind of effect that water demand management has is not just on reduction of water. It also has quite an effect on the integrated management of water. So that is why we are keen on both as a package. But integrating the management of the four waters is really key, and that has benefits, but also it has benefits if you integrate across other land use

practices. But just even across the four waters, with things like water tanks and grey water systems, if you reduce how much water you use, you slow down the water, you start to have quite a benefit on storm water, absorption by slowing it down, allowing - this is my grey water system, using it in the garden or using it in different ways, that reuse of water slows the water down, and uses it more effectively, instead of putting it all in one big package like the Mangere treatment plant, which obviously needs to continue, but may not be the only solution. So we also have rainwater gardens, where water is also filtered so it's managed and gets some of the, I guess the dreadful toxics off the road. There are a whole range of storm water mechanisms that mean then that our streams can be cleaner, so it is another integration.

I put this in as a cesspit, because one of our water engineers that I was talking to the other day said at a recent conference they were talking about flooding around this particular cesspit, which happened to be in Titirangi. And the local community was complaining about it. He said, well, we're in a bit of a dilemma. We could enlarge the hole as this conference workshop was suggesting, so make the hole a lot bigger to get rid of the water a lot faster. But what does that do?" It means that down the other end there is more erosion in the stream, the stream temperature goes up, because the water from the road gets there faster. So you have a kind of unintended consequences, if you like, of managing storm water in that way, and the effect on the natural environment.

This is a rather gruesome slide from a storm water device. And I think it lends a lot of strength to the need not just to manage the four waters, but to integrate that with the land use practices. And I notice from a very quick flick through some of the submissions, that I think it was Federated Farmers have made that point, that it is not per se "land development", but it's "land use activities" and it's how you manage those. So this is from a

storm water filter that picks up the roading storm water from 800 of roading, and the toxic effect is full of the heavy metals, the zinc, the coppers, all of the things that fall off cars. So I think that in itself, to save our streams from that sort of pollution is really important.

This is another little example which actually comes from the ARC, talking about the effect of earth moving, particularly in subdivisions. So the management of those sort of practices is really important on our streams as well.

I'll just go back there for a moment while I finish this next little bit. So what we are saying in effect is a), we think there needs to be a National Policy Statement. We are really keen that in some way, those two principles are woven in, that they don't disappear somewhere. Most people see them as common sense, but they are not really written anywhere, and I guess you might ask the question, why would we - if it is so common sense why don't people do it? The reality is they aren't. So we are quite keen to support the phrasing of the proposed National Policy Statement that gives an imperative through a national aspect, through Regional Government, through to TAs, to make sure that people take that kind of approach. And I think, we see that as quite an important supportive mechanism. It won't be the only one. We also need a range of supporting workshops, guidelines, those sorts of things, to help councils get there. But to have that direction from down below, as well as community concern about the state of their waterways and harbours we see as a natural complement, so we think both of those are really important.

We've made a few suggestions around the text itself, the particular details. And when I looked back yesterday, I must say, one of them looked very ungainly. We tried - but I think you are the experts here, we tried to reinforce the need for both of those aspects as important elements in

resilience of the country to face climate change, to face the intensified storm effects. So we were quite keen to try to put something in there about rethinking what sort of infrastructure that you might need, which in our account is not an either/or, it is not an anti-pipes or an anti-infrastructure message. It's really saying we might need to diversify, and be less dependent on some of those centralised solutions. And I think that probably needs a re-think, rather than just the phrase in Objective 6 (b) that I mention on page 5 of our submission. It's suggested that maybe we put some wording in there that really indicates to people that they really need to think differently, and not just rely on the old ways of doing things.

The policies, the general intent of the legislation, the policies as Nick said, we generally support and see them as really important.

I pointed out in Policy 1.1 (2), that for me, provides priority for reasonably foreseeable domestic supply, that little phrase there, "provided that appropriate demand management strategies are established for such supply." I don't know, maybe it's my political instinct; it seemed to me that that weakened that phrase. And I would much rather that it just said "provided that demand management strategies are established." Because I think people generally do, unfortunately, look for the easy way out sometimes. So we are looking for that amendment, as I have suggested, on page 6.

[3.16 pm]

And then I was interested to hear a little bit of that dialogue before, because when this Policy Statement was first mooted I remember talking down in Wellington about how might we prepare councils so they don't react really badly to having something so-called "forced" upon them? And

the idea of having supported workshops, I know that is not within your brief in that sense, but I think the term “industry good practice”, it would be really helpful to have some guidelines about what that means, and maybe there are lots of examples already existing in that sense. What do they mean so that we can have win-win situations? We are also really clear as David Shand (ph) pointed out in the rating inquiry that these are huge costs. We look at our lakes, we look at our streams. This is beyond what a local authority can deal with. So somewhere along the line, I’m hoping, probably again, out of your brief, that there will be some support for that. It will be a huge task to turn some of those things around.

And the last thing really was about sharing the examples of good practice. I imagine that in your hearings you will hear some really good examples of people doing good things throughout the country, or pointing to different examples overseas. So the supporting mechanism for this legislation I would say is absolutely imperative. So I just leave you with that last little cartoon which is really just a light hearted way, but actually has a quite interesting substance to it about what we have done in our urban environment, probably with the best kind of intentions, so that we cover our earth with pavement, we blow leaves off our lawns and off our pavements and so on. Whereas when we are thinking now about the effects of that, on our streams and harbours, the natural environment and the kind of light-hearted look at the environment-friendly house there, probably has a lot of benefits that we don’t think of.

So I remember in Mount Eden my father used to mow the lawn for three hours every Saturday morning. We had half an acre and he mowed it. He was exhausted, and that was a quarter of his weekend just went, just mowing the lawn. And I thought, “Why do we do that?” It did strike me, we need to re-examine some of our basic kind of ways of looking at it. So for us, reducing that dependence on centralised systems is good.

To be read in conjunction with  
the tabled evidence/statement

Re-thinking why we do things. And that for us is the amazing economic advantage we have in New Zealand of managing our water really well. Thank you. We are happy to answer any questions if you have some.

**CHAIR:** Thank you very much. We would, I'm sure, like to have some exchange with you, but we want just to take a break now, and absorb what you've been giving us. And then see whether we got some questions. So if it is satisfactory to you, we'll invite you to have a cup of tea. We will. And then we'll resume, and see what questions we have and how you can help us better that.

**MS WILSON:** Thank you very much.

**ADJOURNED**

**[3.18 pm]**

Audio file: dpm 0127

**RESUMED** [3:39 pm]

**MRS VERNON:** Thank you for that presentation, I'm going to ask the simplest question first. Just interested, the drain filter you showed us all those contaminants, what's the cost of one of those? Oh, maybe that isn't the simplest sorry.

**MS WILSON:** It's not the simplest question for me, but I know they're quite expensive.

**MRS VERNON:** Okay.

**MS WILSON:** And the other point about that is at the time, the point I do know which is not the cost, is that they thought they'd clean them once every two years, now they're thinking its every six months, and they will decrease because of the increase in traffic and so on.

**MR WILSON:** Can I just comment on that though, because internationally I understand they're now harvesting the middle from those (inaudible).

**MRS VERNON:** So they have to clean them about every six months, but they're reusable aren't they?

**MS WILSON:** Yes.

**MRS VERNON:** Yes, that's right, thank you. Now just take out on your point about demand management, I wonder if we go to objective 6, which is talking about managing demand for freshwater, and I note the change you have put in there. But I wonder also if in fact what you are also talking about, not just demand management, but you're also talking about water

conservation. And that in actual fact in objective 6, if there was a D, which there isn't at the moment obviously, but if there was a D along the lines of water conservation taking in some of the points which you've raised about, where costs can be saved or where changes can be made that are not hugely expensive, but it's about educating. I think you had a list up, I haven't got it on me, but you had a list up on your PowerPoint that listed a whole lot of things. Whether in fact it would be a good idea to have both in that objective?

**MS WILSON:** So how would you see that as sharing with objective 7, and which talks about the efficient use of freshwater?

**MRS VERNON:** Oh it doesn't worry me, but I just wondered whether you where it best fits, I mean I don't have a preference but I just wonder, also if it isn't all more than just demand management, that it's actually about water conservation. And that you've given us some examples of tools that are being used, methods and ideas but of course they're not limited to what you put up today.

**MR WILSON:** Those tools are more broadly defined in the (inaudible) application.

**MS WILSON:** I suppose I think of managing demand as being water conservation so maybe I'm not sure there may be other definitions of it that I haven't thought of. I don't know that.

**MRS VERNON:** No that's all right, it's just as you were speaking it just crossed my mind, that there's other ways of putting demand as well.

**MS WILSON:** Yes well we probably be very happy at any underlining of that philosophy in a way that you think would strengthen it.

**MRS VERNON:** It's not inconsistent with your philosophy as well.

**MS WILSON:** Definitely not, no, it would support it indeed.

**MRS VERNON:** Now, just in objective 2, we've had you - and you raise it in your part A on page four, about your concern about the NPS only applying to new development, and it begs the question as other submitters have raised about existing sustainable practices. And I wonder if in objective 2 again that, instead of having the word land use development that we actually talk about land use wealth, that even current land use and development, rather than that term land use development. Because it seems that development just means the future, and that is currently written, and there are other submitters that are concerned about well what about today.

**MS WILSON:** That sounds a good suggestion to me.

**MRS VERNON:** And I guess that you as a team would not really be in total support of some of the submitters, or one particular submitter from the region that are promoting the idea that urban and rural no point source discharges are just totally different, that in fact it is acceptable to use streams as storm water conveyance, if that's the right word. And that you take from this really are looking for a more homogenous, like urban rural, we all have issues.

**MS WILSON:** Indeed yes.

**MRS VERNON:** Thank you.

**CHAIR:** Mr Prime?

**MR PRIME:** Yes I did have one, how do you do the water usage calculations without having to measure (inaudible)?

**MS WILSON:** It's a good question, because my understanding is there is some crude measurement of bulk water going through the pipes, from where ever the water comes from, whether it be an aquifer or a river or a lake. There is a measurement there, and then there's a measurement of what

people pay for across their rating system. It struck us when we did that table that it was very difficult, I'll put it this way, it was very difficult to estimate accurately how much water individual households on an average were using. Because there is no ability to measure that accurately from house to house to house, and so people took a rough kind of estimate of the amount of water coming in, and somehow the water going out it was not clear to us.

**MR WILSON:** There's no common methodology, some councils actually meter industrial use, so they deduct that off the total coming in, and then divide by the number of households. Others, like Queenstown Lakes, have enormous loss factors like it's some times of the day up to 45% so –

**MR PRIME:** Losses?

**MR WILSON:** Oh leaks.

**MR PRIME:** Oh leakage?

**MR WILSON:** Yes.

**MR PRIME:** And I wondered how do you factor in possibly areas that aren't on water supply, like farms I suppose, they're not included in those?

**MS WILSON:** No these are reticulated systems. I think we probably just need to be a bit careful about other councils, because people are trying their best, and Queenstown has, for example, a very strong water leakage programme now in place to try and track down where the water is going. But it's clear that in quite a few councils, what they call unaccounted for water can either be quite a small percent, or quite a large percent, up to 40% or so percent, which is a lot of water to be going we don't know where. So that's where metering and volumetric charging has a huge impact because people immediately can not only go where the waters going, but at what time, and all of that sort of thing, so you can then

introduce technology to help people wash their clothes at different times and so on. So there's it means that you can manage it much more intelligently.

**MR PRIME:** Thank you.

**CHAIR:** Dr Harding?

**DR HARDING:** Thank you very much for your presentation, it was very interesting. This is a sort of a few issues here, one of them is the metering issue, and if in the cities etc were going to charge people for water, then this sort of using an analogy opens floodgates up to the whole idea of buying water (inaudible). What's your view on that why that issue is?

**MS WILSON:** I think not so much about the transferability, but the case that we're most probably familiar with, which is Tauranga, used an equity based for introducing metering. So they saw it as a much fairer system, because there is a cost in an urban situation of getting the water in, and then getting rid of the tube waters, plus generally speaking getting rid of waste water is much more expensive than getting the water in, so the cost lies in the waste water. They saw it as much fairer to allocate that to what people actually were using. So they used an equity argument rather than anything else, so I think we are seeing that as a very strong argument, and a very effective argument for distributing what water is available. Did that answer your question, maybe not?

[3.49 pm]

**DR HARDING:** Well farmer doesn't look at the bigger picture, but that's okay.

**MR WILSON:** Excuse me can I just comment, in reality the rate payers are paying for that water anyway, its part of where councils don't metre, ratepayers are paying as part of their rates for the water.

**MS WILSON:** It's a flat charge usually so either a flat charge or based on capital value your land value, so they are definitely paying for it anyway, because it costs to build dams and pipe water in and pump it and so on so somebody has to pay for that.

**DR HARDING:** The metering that's going on is metering water that's going into a property.

**MS WILSON:** Into the house, yeah.

**DR HARDING:** You just made the comment that the real costs are dealing with contaminants waste water etc, so wouldn't it be more logical to metre the water that's going out of the property?

**MS WILSON:** There is quite a cost still at getting the water in, and particularly when you have to buy a new dam or build another pipeline and so on, so there is a cost in getting the water in. If you reduce the water coming in you actually reduce the need to treat so much waste water, so you're reducing the cost on both ends. I think the issue –

**DR HARDING:** You've still got storm water though?

**MS WILSON:** Ah, storm water, which needs to be managed in that package as we're trying to promote. Storm water has a huge cost attached to it, if we simply treat it as if it's something quite separate, but what we're suggesting is that on site if you can there are ways of dealing with, either by rainwater harvesting, rain gardens there's a whole range of storm water mechanisms that you can use to cleanse water. Or on the street, and subdivisions, through swails and you'll be familiar with bio retentions and the tree pits and so on. There are ways of what you might call partly natural, and partly person made, because there are some pipes involved of getting treating the water before it gets out there. Because once it gets into the lake or the harbour or the stream, much more hard to deal with, and huge effects as it flows down, picking up sediment and so on. Storm

water's really fascinating because it has so many aspects to it. I probably didn't realise I would be so fascinated either, but it is, its quite complex what happens to it.

**DR HARDING:** So we've had a number of submitters who have talked about relative merits, and regulatory verses no regulatory, and they used the sort of toolbox approach in talking about areas you would suggest might be more of a non regulatory approach?

**MS WILSON:** I think it's probably a mix of both, I know there's quite a strong feeling that simply by education, for example, or simply by displaying water efficient technology, that that's not really effective, and I think we would agree with that. It's not effective by itself, you have to have a whole range of mechanisms, right from, as we are hoping, a national policy statement that sets the direction and the flavour of the country, through to the regional council requiring a water efficient approach. So it's a kind of range of mechanisms, but we are equally strongly of the belief that unless we engage the communities in understanding all of this, you're just doing it under them, and you don't have the same effect. So it is that package that's really necessary, both the regulatory and the non regulatory, to really get to a more successful outcome.

**DR HARDING:** So going to your submission a little bit more specifically, so you're talking a bit on page two, that your research and approach to the value of water. And I guess again you're thinking that's primarily about water use for households, obviously that's your main concern for your organisation. Is that what - what I'm getting at is this approach looking at ecological values, environmental values, is that your?

**MS WILSON:** Yeah this is a piece of work which is happening right now, using Tauranga, I hope they don't mind me mentioning that, as a case study, to try and put some more exact costs on the benefits of a water demand management approach. So they pushed out their water infrastructure by

10 years, what does that mean in money terms, what does it mean in terms of even - some of these things are very hard to put a cost on as you would know. Ecosystem services those sorts of things, how can we value water in a way that people who hear dollars more than values might get through to a few more people. So this is a work in progress we're trying to value each part of that including probably quite intangible things like, what you might call the general raising of consciousness in the communities. Because if they start to hear and learn about water, and think about how they can then connect with the seasons and so on, then they think about energy, then they think about waste. It's a general consciousness raiser, whether we can put a dollar figure on that I'm not sure, but we're trying to go down that direction to put as clear a value as we can on it and monetise it when we can.

**DR HARDING:** So when do you think the results of that sort of study might be available?

**MS WILSON:** Should be in a couple of months.

**DR HARDING:** On page four, you do mention about that you're concerned about the lack of clear water quality standards. And you know again we've had various submitters who have talked about standards or whether we should have them or not, and who should set those standards, should they be set by regional councils, or whether they should be set by central government and that maybe this policy statement is one way of bringing standards in to form. What would be your response to that?

**MS WILSON:** I'm not sure exactly where it should sit. I just think it's one of those things like how do we value harbours we can swim in, and beaches we can swim in, unless we set some sort of water quality standards. It seems to be its going to be - and get a consistent view across the country, which is why I kind of think it lies at a national level, maybe in conjunction with regional. Because my understanding, we've got some pristine areas that

need to be kept like that. So it may not be necessarily one size fits all, but it's really the idea I guess that people have an idea of where they need to get to be a reasonably acceptable to most New Zealand's, this is probably not a detailed thing I can talk about. But it's something that I thought might be useful and having read a few of the submissions, but not all of them, I must add it, just seemed to me to be a reasonably suggestion.

**DR HARDING:** Thank you and I guess you were here during the previous submitter when we started talking a bit about good practice versus best practice sort of thing, and you (inaudible) good practice in your submission?

**MS WILSON:** I don't think one usually there's one way of doing things, and I think you get into quite difficult situations when you're talking about best. I think it was the former CCE Morgan Williams who talked about good rather than best, and it always seemed to me that that was more inclusive that you can write of a range of good practice, you can't necessarily say one is the best. So it's more kind of encouraging of people to try to get towards something that's regarded generally as pretty good practice, that was the general point I was trying to make.

**DR HARDING:** Okay, I guess the issue there though also is that that changes over time.

**MS WILSON:** Yes that's true.

**DR HARDING:** And so ones view of what becomes best practice is a continually altering, whereas good practice might stay good practice for a decade or two which means you don't have to do anything. If you were looking for an excuse not to upgrade your activities or?

**MS WILSON:** It's how you define best isn't it? I do think it's an intuitive process, and there will always be people who try to do things better, I think.

**DR HARDING:** You're probably right, thank you very much.

[3.59 pm]

**CHAIR:** When you had the slide up about Seattle, one of the items that were listed was rate improvements.

**MS WILSON:** Rate improvements?

**CHAIR:** Rate improvements, and I wasn't quite sure whether that was the rate for charging for water, there's a sort of a - you know better than I do, but there's a quite a lot of tension in how you charge for water. There's the flat charge that you referred to before, which provides no incentive to avoid waste, but at least it makes sure that everybody's getting what they need for the normal human purposes. But then if you charge by metre, there's only really an incentive that's likely to work to avoid waste, if beyond the target amount, say 150 or 170 litres per person per day. The rate goes up, so that's what they call a progressive rate isn't it?

**MS WILSON:** That's right.

**CHAIR:** Now what's really the preference of Beacon Pathway in order of that?

**MS WILSON:** I'm not sure if we have an actual attitude on that, I think from my observation what's interesting is that whenever metering is introduced there is a automatic reduction, even if it is just without what I call progressing pricing. There isn't much exploration of progressive pricing in New Zealand, I would think we would support that as an incentive, as a symbol, a signal if you like, for people about why we're doing this. I'm quite interested that people haven't explored that, a couple of councils are thinking of it. So they're thinking of things like seasonal tariffs, there's quite a number of different sorts of things that you can bring in, but you would understand there's a community process that you would need to go through.

**CHAIR:** Of course yes.

**MS WILSON:** Around all of that, so I think we would support whatever mechanisms we can use to reduce the consumption of water within reason. So our understanding is in Britain, for example, where water is privatised, there are some safety blankets for people underneath there when they have a much lower rate. So I don't think we're anywhere near that, but places like Kapiti are exploring those sorts of issues, they can't yet because they're not metered. Tauranga's looking at it, there are a number of councils that are thinking about that and thinking how might you have that discussion with your community, because it would need a community discussion.

**CHAIR:** That's very helpful, thank you. Now you showed us a photograph of your water tank, for watering the garden, and I ask is that galvanised iron?

**MS WILSON:** Concrete tank, I've got a concrete tank, but I've also got a brand water system which flushes the two toilets in the house. It was kind of a demonstration ten years ago, but it means that we've significantly reduced as you would expect our water usage.

**CHAIR:** Yes and does the storage in galvanised iron, for that bray water system?

**MS WILSON:** Ooh no, it was actually the first prototype of its sort, but it's in what almost looks like three or four wheelie bins, so it's in plastic.

**CHAIR:** Thank you. Then you also showed us the photograph of your model house.

**MS WILSON:** Of the now house.

**CHAIR:** Yes the now house, is that the right word for it?

**MS WILSON:** That's right.

**CHAIR:** Did that have galvanised iron roofing?

**MR WILSON:** No concrete tile.

**CHAIR:** Concrete tile, so is it part of the Beacon Pathway philosophy, if that's the right word, that you'd be deliberately avoiding using galvanised iron?

**MR WILSON:** Not at all, most appropriate material in the locality, the roofing systems that are commonly referred to now as galvanised iron, are frequently colour code systems that have quite extensive covering over the material, if it's the zinc that you are concerned about, is well isolated. I need to acknowledge that New Zealand Steel are one our shareholders. And the second NOW home we built, has a colour steel roof. And the reason for that is, carting seven tonnes of concrete to Rotorua as opposed to one tonne or steel has considerably less impact, as you can appreciate best material and best location.

**CHAIR:** And you felt that, because it's colour steel the chance of any of the zinc getting into the environment is so much reduced that it is acceptable?

**MR COLLINS:** The building scientist told me that, and certainly colour steel has a much lower lifetime impact over the life of the building, in that location than other forms of roofing. Concrete has a real issue with being attacked by sulphur, so does aluminium, any sort of roofing.

**CHAIR:** So that was a special for Rotorua?

**MR COLLINS:** That was just standard coastal colour.

**CHAIR:** Yes.

**MS WILSON:** I must apologise. I actually misunderstood your question. Our roof is corrugated iron roof. It's been painted, and we've recently tested the results in our water tank which came out really well, and we've also got copper spouting. So we thought it would be heavy in copper and you know, it was actually, a really good quality water. So I'm thinking, well I'm not sure whether that's time, or whether it is well maintained, which it is. And the paint is - what's the word - secure? I'm not sure, but this is a recent test in the last six months.

**CHAIR:** Yes. Well, obviously, if efficient non-waste and use of water, is very important, and also being alert to ways in which we can reduce contaminants getting into the environment is part of it as well, isn't it?

**MS WILSON:** Indeed.

**CHAIR:** Well, you been absolutely interesting to us, with all that you have been able to tell us. Thank you for taking the trouble, and thank you for coming in and taking part in our exchange this afternoon.

**MS WILSON:** Thank you Judge. Thank you members.

**CHAIR:** Ladies, a very warm welcome to you, and thank you for coming this afternoon. We understand that you are representing the Friends of Oakley Creek and STEPS, and that you are going to speak to the submission that we have before us. We want you to feel that this doesn't require any particular formality. You can present it in whatever way you are comfortable doing, and just please start when you are ready.

**MS WALKER:** Thank you. Tena Koto. We thought that we would like to do it in two parts. So the first part is about ten or fifteen minutes of some slides, mostly pictures to give you a sense of the ground and water on which we work. This is Wendy, you may know Wendy John who's the chair of Friends of Oakley Creek.

**CHAIR:** Good afternoon.

**MS WALKER:** Wendy really inspired us in many ways. This is Pat Prescott the chair of STEPS, St Lukes Environmental Protection Society. I'm Liz Walker the deputy chair of STEPS. We have come very much to focus in our work on Meola Creek over the last four or five years. And we found it particularly interesting actually reading the submissions of our local authority, and so some of our points will be in response to some of their comments.

[4.09 pm]

**CHAIR:** Yes, well that is entirely part of the process, and you might know also that we had some introduction to Meola Creek this morning, so yes, Water Care Services. In fact they dwelt on Meola Creek as a problem for them. So we are looking forward to your viewpoint on all of that as well please.

**MS WALKER:** Very good. Well you should each have a copy of these slides.

**CHAIR:** Thank you.

**MS WALKER:** So we are just going to give you a general introduction to the two creeks, and then an idea of some of the - what seem to us massive issues we are facing, some of the opportunities, or course that this presents for the future, and then come back to the National Freshwater Policy.

What we submitted to you was that we felt we need active protection and restoration of urban streams, things like low impact design, day lighting, etc., esplanade areas and strips, and we were talking about treatment of storm water to prevent pollutants accumulating in estuaries, and talking about soft engineering in relation to stream management, and problems of urban runoff.

I've added in there, managing cumulative effects is really something that over the last two to three years, it was only in reading their submissions that I came to understand they have no powers under them, because we are just sitting there and just noticing, you know inch by inch, mile by mile, cumulative effects. And it was interesting to understand that local bodies feel pretty powerless to deal with them. So we thought that was very important.

So just going back a little way, these are 19<sup>th</sup> century photos, not so far away, a hundred and forty, a hundred a fifty years, of Oakley Creek on the left, and around Owaikara /Mount Albert which is where Meola Creek originates, on the right. So you can see a very wet landscape.

**CHAIR:** Would you forgive me for interrupting - and just so that I can explain to you that not all of my colleagues are Aucklanders - in fact none of them is.

And so, it might be just a thought if you just give a word or two to explain to them where these important waterways are.

**MS WALKER:** Okay. So both of them drain into - this is the Waitemata Harbour obviously. This is downtown somewhere to the right, there. And the two creeks that we are talking about, both originate in the western suburbs. That is Meola there, coming out at what's called Meola Reef where it used to be called Black Reef, a very famous volcanic lavaflow. This is Owaikara / Albert right here. And Oakley Creek, I'm sorry, but the only picture I have got, it probably starts a little way back here, and it comes out at Waterview, right Wendy?

**MS JOHN:** By the western motorway.

**MS WALKER:** A lot of our information comes from the 2001 application for resource consents, to Regional Authority. And in fact in both of those two creeks they each said that both of them had the largest number of - the most diverse range of marine environment in Auckland. So, I think we can take it as read, between them they certainly do, there's pollen in Herne Island, ecological zones which are nationally significant out here. There is Western Springs, is down there. And there is a big aquifer that underlies this whole area. It underlies both our creeks, and obviously these are, Meola Creek anyway, is very spring fed.

We have got things like Point Cheavlier Beach which is here. We have got two enclosed estuaries, Meola and Motions Creek. We have got this estuary here. We have got as well, I guess, the sand flats off Waterview, and the east side of the Faux (ph) river estuary there. So, we also note that Waitemata Harbour is of national importance for level usage by birds, and a wide diversity of migrant waders. And we know that Auckland is

very justifiably proud of Waitemata Harbour. We are trying to get a little more interest in the things that feed into our Waitemata Harbour.

**MS JOHN:** Can I say that the grey area on the left-hand side is actually a marine reserve.

**CHAIR:** Thank you.

**MS WALKER:** Oakley in fact, is actually New Zealand's longest, fully open urban creek at twelve kilometres. And in terms of Meola, that's actually the largest catchment on the Auckland isthmus, and it goes from Mount Eden, there's Three Kings, there's Mount Albert as we've talked about, and we talked about the lava flows out to Meola Reef.

The Oakley is actually 57 percent permeable or an integrated catchment area three (whatever that is) and Meola about 47 percent. So this is 2001 figures, doubtless worse by now. But it is not, you know, a 100 percent impermeable, with combined sewers that are a lot of our problems. And that's all what we wanted to say on that. Is that enough of an orientation?

**CHAIR:** Thank you very much.

**MS WALKER:** Okay, good. I suppose where we are at here, is saying that Water Care Services has many large overflows, and 84 percent of them in our two catchments, it is a little disturbing. There is a lot fewer in the eastern suburbs I guess. And a little bit of calculation would say that in Meola, most of the overflows do in fact come from Water Care Services. I think Metro Water has dropped a lot back. And it is about 600 Olympics pools full per year at 2001's figures. It's a lot when you see it flowing past in a small creek.

The kind of conflicts that we have got in this - the rest of my talk is largely going to be about Meola, because that is what I know better. We will come back to both at the end. We have an adequate sewerage, and wastewater infrastructure. We are seeing that the protection of Meola Creek, and the other creeks in the district plan are in name only. There is one map at the end that says all "and all these are protected" but none of the zones cover it. So there was talk of consultation with us about whether or not St Lukes should be a potential growth node, but meanwhile - Pat has made a study of sort of like eight hundred or a thousand units having gone up right next to the creek. We are not talking about in the whole catchment we are talking about, in a very small area and a very short time. And the council seems powerless to prevent approval of those, and more powerless to start working on some infrastructure, which may have supported such development. So we are completely back to front in our view. Those are a list of some of the addresses which may have been, maybe a couple of hundred units at some of them. Maybe even more than that at some - and we have been ineffective at talking cumulative effects to them.

This is just what you see in a local park, polluted water and subject to flooding without warning. That's actually a big school next door to it, and there's hundreds of kids walk across that bridge pass this every day. That's not such a common sight, I guess since we took an interest, but it still happens. And when we started, the STEPS group started work in December '05, this is what our little creek or then ditch looked like. It's amazing actually the transformation and recovery that can be achieved just by very simple efforts. And Metrowater provided some plants. That was probably within one or two years. It is now looking even better. But all that is doing is shading, the quality of the water has probably gone down. We are just hoping to cool it. There's some eels which have actually have been there, to my knowledge for the entire, since 2004.

They keep popping up. Sometimes they are dead as well. I don't know if you can see about a dozen or so there, where there is some clearly some clean water coming in.

[4.19 pm]

Now I wanted to talk about some of the threats. The five that I've listed are Oakley Creek and the motorway, St Lukes-Westfield, Three Kings, Meola, Western Springs aquifer, and the Three Kings quarry. A particular pollution incident at Oakley Creek, and a development in Haverstock and then Meola - Wendy, do you want to talk to this particular one?

**MS JOHN:** Sure, we've got a situation for those of you outside of Auckland that Transit New Zealand is wanting to put an alternate route around through Auckland. So if anything happens at the Harbour Bridge, or through Spaghetti Junction. Then there is an alternative route. The last Government was going to put it through - it has come a long way so there is kind of a section that it has not been completed. And the last Government would have put a twin tunnel option, which meant from the existing section, went underground the whole way. The National Government, the new Government came in and changed it and said to the NZTA, the Transport Authority this is how much money you have got. You do what you can with it. So we now have a situation. Oakley Creek is quite a green corridor and it's Auckland City's only option of actually having an ecologically green corridor across the entire estuary. It starts almost at the Manukau Harbour, just on this side of the bridge there, and then goes all the way across, and comes down Waitemata Harbour.

So there are sections you can't see there, the motorway coming from the south here, coming through, will cut through a huge amount of our green space, particularly at the bottom of the section, and on the mean

realignment of the creek, and then further up it will go, a section of the tunnel underground, and then it will cut and cover along a very narrow strip which is very close to the creek, and it says on there that we will lose – we will have an increase of about 12 hectares of impermeable surface area in our catchment, in a catchment that is already at capacity because of the existing storm water flows into it, and there is some other figures there as well that talk about it. So it doesn't bode well for a stream that that has been, actually been classified, I think it's in there as the - the Commissioner from the Environment Court as Auckland premiere stream.

**MS WALKER:** Okay, Westfield-St Lukes have recently approached about January I think, approached the city council and they are proposing a 50 percent larger footprint, so the bit in red is where it's kind of two or three storeys high now. This piece in green is going to be added, although it is car park at the moment, and they are talking about storm water increases from 46 litres a second to 500 or 890 which seems unbelievable to us. I'll show you a photo in a minute of the kind of torrents of water we see going through Lion Ave., not only from St Luke's but from the catchment where they sit, five times more waste water and water usage and that their current car park doesn't meet standards.

So this is Lion Ave., on a good day. That's the number two. I haven't got any pictures for you of the number one, the largest overflow which is in Haverstock Road. This one is the number two. I do have a table that came from a Water Care Services 2001 publication and it does have volumes and stuff, if it is any use to put it into the evidence, we can do so.

But this one, I'm not quite sure, it's a bit - maybe a half or a third of what the other one is, and each time we go to development hearings, what we hear from them is no more storm water. And it's taken me three years to understand they mean no more at peak, because they will just hold it and

sustain the peak, like the volumes are increasing massively, as you can see with each of these. But they can put detention tanks in so that, they say, that the creeks can still handle it. But it just means longer floods.

This place here is actually dry for 99 percent of the time, and it's a very - quite a large capacity, and quite a large volume of water.

Okay, our next one is jumping to Three Kings, where this is actually the locals call it Lake Winstone and that, they tell us is the natural level. But in 1991, I think it was, they started doing what they call dewatering, which means pumping the water out of the quarry, and over into the Manukau Harbour. This is a picture that has taken into -

**MS WALKER:** I want to just clarify for people outside of Auckland that's actually part of, this was actually - Three Kings were actually three volcanoes in Auckland and that's what left of them.

**MS JOHN:** This is a very recent picture which I believe is exactly the same location. It just gives you this idea. This one is 56 RSL. That one is 34 RSL. That is a massive amount of water that is being removed from there, and not only removed from this quarry, but we have gone back to ARC to no response so far. And said, but look, we have incredibly low base flows down where we are. Could this be anything to do with it, because this is the head of our aquifer? We believe that they will look into it in due course and get back to us.

But in addition, Winstone's are proposing an unlined kit here, and I think they said pumping in perpetuity at the public meeting. And, as I said, we are concerned about our low base flows, but also the possibility of aquifer contamination from that fill, and the continuation loss of the water out of our catchment into straight down to Manukau Harbour.

Next one, Housing New Zealand in Haverstock Road, it's a relatively low, they would say low rise, 41 units instead of 19, not much, but a large increase in impermeable surface, and a road right next to the creek. And as I said before, this is the largest water care services overflow in Auckland. And this lovely flow path is what - we thought it was a creek and we have an 1842 map of the city here, which shows it as a creek even at this stage, but in the last ten years, someone made it into an overland flow path, and that means that the ARC could say no this is not a creek, because you haven't got have enough water in it . Okay, so therefore none of this sort of usual care about creeks applies, even though all of the land area around it was Government owned, and it's all covered by Part 4A of the Conservation Act, which talks about public access, which talks about access to preservation of natural fauna, and you know water quality and all that stuff, but none of this matters.

We have recently had very positive response from our local authorities, ACC and ACR about the possibility of "re-watering" that creek, and what that means is that there is going to be this road here that Housing New Zealand want to put in, when I say road, it's a back access driveway, but road quality for these twenty units. And they are going to have some detention tanks and maybe they can put the storm water cleaned, back into here and we can get a little bit of base flow.

Then a pollution incidence, where actually a year before this photo was taken I was walking down Oakley Street creek and I saw exactly the same thing happen. And I called the ARC and Wendy can take it from there.

**MS JOHN:** That was - we were down the creek actually with one of the schools, doing some planting, and cleaning up and thing's and the big storm water drain that comes out from Unitec, our local tertiary institution, and they -

there was this huge wall of foam, and we took photos of it, we called the ARC hotline, they came down straight away, and the next slide actually tells you, that's just a sample, within seconds, there were literally hundreds of fish, dead fish, small – all native fish, floating in the water, and we lost some eels, and that was just a simple - like it was, what had happened was it had these contractors gone on the Friday, and they had used an antifungal spray on the roofs, and they hadn't diverted the storm water down pipes, and it rained on the Monday. We just happened to be down at the creek at the time the water came through and reached the outback there. So fortunately we were able to find out who it was, and they got a very minor fine. But those kind of things, you know, just happen. And the fact that I had a photo and it was just two years before it, and Liz's photo they could have been identical photos.

[4.29 pm]

So there are things like that happening in our local streams, so a little bit of tongue and cheek that somebody from Auckland City Council (inaudible) said it's a good way to do a fish count. We had no idea, I mean it's quite difficult because quite you know like - Oakley Creek is not just a little, it is quite big in places, but it's quite deep in places. So often you can't actually see, the native fish are very small, and you can't often see what's there, and there were hundreds. And we understand there has been quite a good recovery, but it's something that we could do without in our local streams.

**MS WALKER:** Okay, so that's just the five incidents or changes that we were talking about. What we tell our local bodies that we need is some funded plans to stop the overflows through the creek. Now they have recently admitted to us that they won't be stopping overflows in Meola, that they are always going to have overflows, but I guess it is a question of degree, and perhaps cleanliness. We have been asking them for sewer

separation; the vibes we are getting on that are not positive. But upgrade of sewer and interceptor I think, Pat and I have got a meeting with Water Care Services next week. They have - I wrote to them last week and they said how good is that timing? We would like to talk to you, because they had just commissioned the design of an interceptor upgrade. And that will alleviate the overflows in Auckland City, I understand.

And the other thing we tell the local bodies is that we need some specific creek protection, in the district plan or whatever other means it takes, and that we are also asking for creek management plan, because Wendy is in a different community board from us. We are in a different community board from the other end of Meola Creek. The City Council really doesn't particularly want to know about them. They say go and get some money for plants from your local community board. So there is a resistance towards having end-to-end plans for these creeks, right, all we can do is play around at the upper part which is it's kind of an anomaly, but it is by far the most polluted part of the creeks, whereas normally you would expect they might be more polluted further down, but not in our case, because we have got all this help from the overflows.

Some positives, we have seen a draft district plan come out and by the – at the start of the district plan process there were no creeks shown on any Auckland City maps. Whenever you go to a hearing, there are no creeks shown. Say we went to St Luke's, or we went to Haverstock Road, no creeks ever show, even if they're, you know, they have got bridges across them and stuff. But by the end of the process we, with some input from Wendy, me and some others, we actually are showing on the district plan at this scheme and schematic level - the creeks or at least some of them. So that makes them a little visible, and this is just a positive example I suppose, of some more of the changes that have happened here. This is some ground, just over a year ago, and we had a big planting there and

on the right you can see a boardwalk that was funded by Metrowater. We planted about 5,000 plants last year. This is what it looked like by about February this year. This grey stuff is an overflow. This was a flood event. It's not in full flight. But we have a few photos of the flood. I meant to bring them actually, right up to here. Okay, it seems to be the right height, because the floods don't exceed it, and those are little - the grass plants that you saw in pots the early ones, so it's rather lovely, much nicer than it was before. And there is also a weir, and you can see the spring water. It's not there probably in winter, we are guessing, but in summer, sorry, it's not going to be there summer. In winter there's beautiful, clear spring water, you know. And this is very short periods of time. We can get at visual transformation. Our idea of having this here is that this, you can plug it up, and we can retain some of that clear water and let it filter down to the aquifer, rather than it used to be a big dropper and straight out into sea before that. So those are some positives where we work cooperatively with the locals.

We had a sense perhaps from reading some of the other submissions that Auckland might be too big to need or deserve clean water, so we wanted to show you Seoul, Korea where there have ten million people and they actually got rid of a motorway to put this - at least "re-vegetate" if you like, and put water flow through the middle of their city. So what we would like to see is - we don't want to see Auckland's urban creeks go under the radar of your freshwater policy. We believe that we should be considering the needs of the future. We want to see integrated management of the water resources, including wetlands, ground waters and aquifer. We want to see clear accountability for water resources. I think in our submission we showed you where the probable ownership responsibility lies just for one creek, and it's all over the place. We believe we need a national framework for both standards and for reporting. We want clear, robust, time-bound objectives and goals. This is going to take appropriate

funding, education, and monitoring we believe, by central Government. And we are very, very wary of words like “only worry about creeks that are regionally significant” or “let’s have local standards”.

So I think that is the end of the presentation.

**CHAIR:** Well thank you for that. That was of interest to us and demonstrates the enthusiasm that you ladies are bringing to the task, and to the submission. Thank you very much for that. And we recognise of course that that’s not the complete presentation that you are going to give to us, so may we encourage you to continue?

**MS PRESCOTT:** Thank you. The part that I will do will actually expand on those final points that we had at the end, and the rebuilding on, what we put in our original submission and there’s a table at the end, I’ll just go through the parts and point out, give out our main points.

As Liz has all ready pointed out, ours is a combined submission, covering groups that we see ourselves as guardians of two of our urban streams, and to the main - there’s only five actual public waterways, in Auckland City itself. So, these are two of them again, Oakley has been deemed as Auckland’s premiere stream.

We contend that these streams are of significant ecological, environmental and historical significance, and require recognition as under “notable value” within the Auckland City region. Both support populations of native flora and fauna as you would have seen, unfortunately you only saw, well you did see the live eel, and some dead fish, sorry about that, but that’s what happens. And are used for recreation, including swimming, not everybody would swim in the stream particularly but at Oakley Creek we have as it’s got here, we’ve got Auckland’s only waterfall of this size. It is

about six metres high. Most people in Auckland don't actually know that it is there, but there are certainly a lot of local children that know it is there, and they spend an awful lot of time swimming and actually jumping off the top of the waterfall in the summer, and not just children either, I can assure you.

Meola Creek catchment receives, as Liz has already mentioned, approximately half of the volume of Water Care Services overflows. Western (inaudible) streams) handle about 84 percent of Water Care overflows, and they are of notable value to the environment in the region, including use to dilute pollution before it reaches the harbour.

We would like to put forward the case for the ecological status of both Meola and Oakley Creeks as fresh water resources, and pointing out that they are at risk, very much from cumulative demand and their expanding use is part of the city's storm water and waste water infrastructure, and also that has been mentioned, the significance of cumulative demands of the catchment, including from the Three Kings Quarry. And that is a base for both our catchments. And so again, quite an impact on our base flows, which we believe is very important to one of the things that has been happening in the cities is that with the increases in impermeable surfaces we do lose - we do end up with combined with reduced base flow in the summer periods in particular, and then increased storm water events, so we go from one extreme to the other.

[4.39 pm]

The stress that is put on them, significant ecological stress, and risk results from the use of these streams and storm water and waste water utilities, and Liz has talked again about the proposed St Luke's expansion of the town centre there. And also mentioned there, it illustrates the

significant water revenue (inaudible) without coordinated provision of the waste and storm water infrastructure, so you end up with developers actually having the ability to increase demand and usage of water, but there is no practical application to how that will be dealt with at the other end (inaudible) those developments.

Again we talked about the degrading of the Meola Reef. It's not up there now, but there was one image, the actual Meola Reef which is quite significant in Auckland, Auckland comes from the – is actually lava flow from the Three Kings at the very top end of the Meola Catchment. So it is quite a significant lava flow.

So some of our points - the National Policy Statement for Freshwater, we believe should ensure that we are looking at the needs of future generations. Freshwater is now recognised as an increasingly scarce resource. And improved standards of management are needed not only to maintain status quo going forward, but also to enhance the quality of our freshwater resources. We believe it should be integrated management of all freshwater resources, including wetlands and groundwater that is required, and the responsibilities we believe again should be integrated management of freshwater resources with clear accountability, and Liz talked about the issues around that. And I don't need to expand on that. And we - I have no idea really - I mean we got a new Auckland Governance coming up. We have no idea really - there maybe some positives come from that, but it's a bit of a, quite a large unknown at the moment for many of us, and particularly for people that are involved in local issues such as we are. We have no idea what's in store for us. So we are saying here that local authorities must be required to enforce compliance, and also that the National Policy Statement on freshwater and the Resource Management Act must be consistent with

each other, so that we've got some continuity and we know what's going on.

And we believe that a framework for National Standards is needed. The needs for managing rural and urban freshwaters may differ. Urban streams are sometimes degraded. Nevertheless, standards are needed to protect these and to enhance – ensure enhancement potentials are able to be realised.

As you've seen by the images that Liz showed over the two years, the changes that have happened over a short time. And we have been working on Oakley Creek for about five years now, and the changes down there, people that haven't been there - through there for some time, can't believe how different it is. We have been working very closely as much as we can with local contactors, local government authorities to change management practices with small improvements, but really it needs to be done at a much bigger level which is why we are here today.

Urban creeks, the fact that they do not meet New Zealand health standards we believe is not acceptable. Sewerage is objectionable and a short term health risk in Meola Creek. It is really the accumulation of road pollutants which are poisoning the marine life and estuaries. And we believe that the local authorities need to be managing the cumulative effects, as part of this.

And Liz talked again about the concerns about having regional significance and local standards. We think there should be overall standards throughout. And (inaudible) unique and fragile landscape, and it is recognised that its heritage protection of volcanic cones, we believe that we would like the same sort of protection for our streams as well and our aquifers. They play an incredibly important role.

The definition of regional significance cannot be used to mean the clean waters acquired in the Hunua (ph) and the Waitakere ranges, while Auckland city needs only drainage ditches or perhaps one symbolic creek. (inaudible)

Standards which apply to all freshwater bodies are needed for reporting on freshwater quality, and waste water and storm water discharge management, and the Ministry for the environment should monitor reporting compliance.

As Liz already mentioned again, we are covering (inaudible) should be appropriate funding by Central Government towards implementation and policy.

And we also believe that clear, and robust, time bound, objective and goals are needed, and that the timeframe should be five to ten years.

So everything else you have got there. There are points I won't go over. (inaudible) covered a lot of them and everything's done really - and you have got it there in front of you to read. I'll stop there, and open to some questions.

**CHAIR:** Well thank you very much for that too. Now is there something further that you would like to present to us or shall we go to see whether there are questions that we could have a conversation about?

**MS WALKER:** I think we covered everything.

**MS PRESCOTT:** Liz mentioned the development - I hoped you noticed the background in some of those photos that we had of the creek, the large

developments that are taking place, in particular the one with the three big brick buildings. And in that particular case, on one side of the Auckland City Council the planning department was saying, yes, that is fine, you can go ahead and do that, and on the other side of the council, there was a report from the Utilities Manager saying, he didn't support further development in St Luke's.

**CHAIR:** Those brick buildings are they part of the St Luke's town centre, shopping centre?

**MS PRESCOTT:** No, they are not. They are apartments.

**CHAIR:** They are apartments.

**MS PRESCOTT:** It started of being 118 apartments, we got it down to 106, but it just creeps up and they keep saying there is no significant effect, or minor effect, or whatever. Less than minor. But the cumulative effect is that in the last (inaudible) years that I have been living next to the Meola Creek, it has gone from being a nice little country stream, were I used to take my kids to get tadpoles and frogs, and pick watercress, to a sewerage ditch. It is just an open sewerage ditch, and the reason they put the boardwalk there, is to keep our feet out of what came out of the creek.

**CHAIR:** Thank you. Now I am sure you understand that while of course we are going to take all that you said to us into consideration, some of the things that you are asking about, and some of the things that you are raising, are in one way or another outside our ability to influence anybody. So, that's not a reason why you shouldn't have mentioned them, because we need to have the whole context so thank you for that.

But for instance, anything to do with funding is outside the scope of the NPS, and so you will need to continue your pressures in other directions there. Now may we ask some questions? May I ask Mrs Vernon if she has any?

**MRS VERNON:** I noted your comment about when you are trying to work together, that you have got three community boards that you are working off on the Meola Creek or was it the Oakley Creek? I'm not quite sure.

**MRS WALKER:** There is two in the Meola Creek and two in the Oakley.

**MRS VERNON:** Ah right, so both?

**MRS WALKER:** No, three in Oakley Creek.

**MRS VERNON:** In Objective 2, at the moment it talks about integrated management, and I guess more importantly with your new Auckland Governance program you could end up with more community boards, rather than less, so if the word "integrated catchment management" was put in, that would probably be somewhat helpful for you, would it?

**MRS WALKER:** I think so, definitely. Yes

**MRS VERNON:** And equally in that same objective, they talk about land use development, which is more about the future, but there have been other submitters that are concerned about current practices. And, that - so I've been asking submitters, how they feel about if it was land use - even "current land use and development", rather than "land use development".

**MRS WALKER:** I think that would be very helpful.

**MRS VERNON:** Thank you. Those are the only two points that I wanted to ask a question, but can I thank you for your presentation and your passion for the project. Thank you.

**CHAIR:** Mr Prime?

**MR PRIME:** Yes, I wondered about what you called Lake Winstone's, that's been pumped into Manuaku Harbour. Is that the treatment area, where they are pumping it from?

[4.49 pm]

**MS JOHN:** All I know really is what I've learnt this year in fact - I went to a public meeting and they said that the dewatering, the first idea I think was to sell it for public supply over in Onehunga, before the Waikato River came on stream. I think that was the idea, but they got this pumping station going and cleaning and all that stuff. But they found that it was too high in mineral content. Maybe naturally rather than polluted, but subsequent - so it went into Onehunga water supply for a while, and then they seem to have diverted it straight down the storm water, into Manukau now. That's all I really know. So does that answer?

**MR PRIME:** Yes it does. I just thought about the two creeks, how much of it would be tidal, like 100 metres?

**MS PRESCOTT:** Very, very little actually. Well with Oakley Creek, no, it is probably 200 metres I suppose. Yes - actually more than that, probably half a kilometre. And that has changed the nature - that has changed quite considerably when they built the Western motorway, State Highway 16 from Point Chevalier along across the marine reserve there, the silt build up in there has been extraordinary.

**MR PRIME:** And Meola Creek?

**MS PRESCOTT:** We basically are looking after of the top half of Meola Creek from Chamberlin Park back to the source, and the effect of the tide, for us, is that the creek and the sewerage can't get away. The tide backs up, instead of the creek flowing down to the sea. It backs up and that is why on the (inaudible) Reserve and around Meola Creek the top end where we are, that's why it overflows, and it forms a big lake with all the sewerage in it.

**MS WALKER:** Can I say that the streams and that particularly, I know for Oakley Creek in particular, but the drop from the source to the Harbour is incredibly great, very low, there is very little fall right across.

**MR PRIME:** So those overflows happen mainly at high tide?

**MS WALKER:** I think they get slowed. I think they get blocked more at high tide, is what Pat saying. They not - obviously the flows are not necessarily related to the tides, but the tides worsen the flows. And in that assessment of environmental impact, I think it said that Meola is by far the siltiest of all the creeks, perhaps because we have so many overflows and stuff. I actually went kayaking and managed to get tipped right into the base of Meola Creek, at it lowest you have to wait for low tide and go under a road, and then pretty quickly you can be in that depth of water at the, coming in from the estuary, so it is not a very big, deep river.

**MS JOHN:** Can I just clarify that most of the overflows actually come when we get heavy rain. So our sewerage system, because we are in Auckland we have got a lot of combined sewerage storm water, so that when we get heavy rain, and there isn't the capacity to cope with it. So that in various

places along our streams the sewerage pipe which has storm water in it as well, there is outflows that only work during heavy flooding. So that, I mean Oakley Creek I know that there is a pipe that has got a metal cap on it. And when you get a really heavy rain, obviously it rises up and it overflows into the streams at that stage, so that is what the overflows are really.

**MR PRIME:** Thank you.

**CHAIR:** Dr Harding?

**DR HARDING:** Thank you Judge. I think one of the submitters this morning said there were no creeks in Auckland City. So maybe these things are a figment of your imagination!

**MS WALKER:** That is why we wanted to give you pictures, so you would understand that.

**DR HARDING:** And thank you for that. I've got a couple of general questions and then moving onto the Policy Statement I guess. Is there water quality monitoring and biological monitoring going on in these systems?

**MS WALKER:** There is a variety of - different organisations do different types of monitoring. I know that the ARC do monitoring. They have got points right around the city monitoring where they do monitoring of water quality. And there is an organisation called Why Care Services which works with community organisations, and they do monitoring of invertebrates and stream life as well as ph levels and oxygen levels and things like that, and that all gets put onto one database. And the Why Care is actually coordinated and funded by all the different cities. There's

North Shore, there's Manukau and Auckland Regional Council as well and Auckland City Council. That is quite an innovative, organisational set up and what they try and do is get, they are expanding. They used to just get local people monitoring. Now they are getting local people involved in restoration work as well.

**MS WALKER:** That's the general truth, but in terms of Meola we - from the presentations we've been given by both ARC and ACC we don't believe there is any monitoring, at all, takes place on Meola water quality. It was one of the things that when we started work on it we said obviously you need to know what the quality of this thing is, and you need to publish it. And the answers we are still getting are, well we actually measured Oakley Creek at such a point, and Meola Creek at such a point in 1992. Their quality was about the same, so now we just measure in Oakley Creek and we assume that the same applies to Meola. And from Why Care they actually are unable to go into our creek, because I think in here you will see the statements that came from the assessment of environmental impacts, but it says measured bacterial levels were high along the whole length of Meola Creek, levels in the upper creek reaches, in the vicinity of Mag School, exceed New Zealand guidelines for recreational body contact, by a lot, I think. And so they can't get the local schools, obviously involved there, so Why Care do no monitoring either.

So the answer is yes, there is some monitoring but no, it is not universal. And there's certainly no publication of what they find out, other than in in-depth reports that come out for specific purposes at multi-year intervals, but there is nothing like a time series publication, which is what I would imagine would go to a website to see are things getting better or worse, you know? But no one wants to know, because I think we all know the answer and it is not a good answer.

**DR HARDING:** Okay, thank you for that. Going to the National Policy

Statement, one of the sorted related issues I guess that you brought up here is, you showed us some photos of overflow channel, which you were concerned about and you talked about wanting to see some reference to riparian (inaudible). I am thinking about the mechanisms that we might actually be able to incorporate in that sort of an idea. One suggestion that's been made by a previous submitter is actually possibility changing the definition of freshwater resource. Under the proposed statement at the moment, the definition of freshwater resource really talks about river water, not about the ecosystem, not about the habitat and the biodiversity and all of that sort of thing. And if we were more to think about these as freshwater ecosystems, rather than freshwater resources, then we might then start to think about riparian habitat and all those sort of ideas. Do you have a view on that at all?

**MS JOHN:** I think that sounds very positive actually, because I am constantly saying to people, you know a stream is not just a channel of water. The health and well being of a stream is totally dependent on what is around it. In the ARC I think they define a riparian stream as anything from 15 to 20 metres, so anything less than that and you are not getting a true protection of your stream. I think ecosystem, something, very similar wording to that would be very positive.

**MS WALKER:** It changes the whole concept of it, to being something that's natural, rather than something we can use for a utilitarian purpose. Resource tends to imply that, so I think maybe if we put the boot on the other foot, by saying this is actually an ecosystem, would you like to have access to it, rather than, here's a resource go.

**DR HARDING:** Okay. Part of the definition at the moment also excludes ephemeral streams and artificial waterways. And again some submitters

are saying, well, they actually want to include temporary streams and include artificial waterways, which again might include your storm water and overflows. So again, would you support the idea of including ephemeral streams and artificial water courses in the definition?

[4.59 pm]

**MS WALKER:** Definitely, absolutely. There is a picture here which I don't know if you can see, but it kind of traces a particular stream bed in the US as it happens. In less than a century going from many little tributaries to becoming like a stick figure with five links on it. We could have shown you a picture of a small tributary to the upper Meola Creek, which is now a swamp in the school farm grounds. There's a thought to fence that but it has been partially piped. And often not all parts of the year can you actually see the water sitting in it. But it is still validly a tributary, and I think that the only way to start to stabilise, you know, on the five stick figures, as opposed to the hundreds of tributaries there, is to recognise what we can identify now. I think Wendy and I were discussing it and we realised that with so many pipe streams, Like I think there is something called the Ligar (ph) Canal in Queen Street. It is very difficult to determine what's artificial and what's a natural course is anyway. All of these thing when you are dealing with water it's a continuum between the stream, and the estuary and the harbour. Okay, where is the line that divides? The same sort of thing when it come to talking about artificial water courses, if there wasn't any water then you wouldn't have a water course. Yeah, I agree.

**DR HARDING:** Okay, thank you very much.

**CHAIR:** Well thank you all. It has been very interesting for us to hear, quite a lot of the time our minds have been focussed on national issues, and we can be better informed when we've had at least a sample of some local issues

To be read in conjunction with  
the tabled evidence/statement

as well. So thank you very much for all the trouble you have taken in giving us this presentation.

**MS WALKER:** Thank you very much. We wish you well.

**ADJOURNED**

**[5 pm]**